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Building Conditions Survey for The Bradley Palmer Mansion

at Bradley Palmer State Park
Topsfield, Massachusetts



Prepared by
Ocmulgee Associates Consulting Structural Engineering
and
Robert Carlson
for
Commonwealth of Massachusetts
Department of Environmental Management
Historic Curatorship Program
August 1995



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**HISTORIC CURATORSHIP PROGRAM
BRADLEY PALMER MANSION
BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

FOREWORD

The Department of Environmental Management (DEM) is pleased to provide the following Building Conditions Survey in conjunction with the Request for Proposal (RFP) for the rehabilitation, adaptive reuse and lease of the historic

*Bradley Palmer Mansion & Pumphouse
located within Bradley Palmer State Park
Topsfield, Massachusetts*

DEM intends to lease the property to a Curator/Tenant through the Department's *Historic Curatorship Program*, under which the lease value is exchanged for the rehabilitation, adaptive reuse and maintenance of the property. The term of the lease is based on the value of improvements, maintenance and management services from which the annual fair market rent is deducted.

In an effort to provide potential proponents with information on the condition of the curatorship property and the approximate cost for rehabilitation, DEM hired an independent consulting firm specializing in the evaluation of historic structures. Ocmulgee Associates, Inc. inspected the building(s) and prepared this Building Conditions Survey according to a standard scope of services prepared by the Department for the Historic Curatorship Program. The general assumptions and limiting conditions of the assessment, including areas for further testing and analysis, are identified within the body of the report (For example, sections F, H & J).

It is important to note that the buildings in the Historic Curatorship Program are of considerable age and have been vacant for a number of years. While every effort was taken to provide a complete assessment of the structure(s), this report is based on the visible condition of all accessible areas of the property at the time of inspection. Furthermore, the report is based on available data provided by the Department to the inspection team of Ocmulgee Associates, Inc. Potential hazardous conditions have been identified wherever possible, but respondents should exercise caution in inspecting the property. DEM also recommends that the Curator/Tenant conduct an independent inspection of the property prior to beginning work on the building(s).

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A. General Description and History of Mansion

Built in 1902-1904 as an elegant but modest country residence for Boston lawyer Bradley Palmer, the original part of the house was U-shaped in plan and included a stable and coachhouse in the south wing (Figures 1A and 1B). Before 1920 the house was altered by the conversion of the stable wing into a ballroom and dining room and by the addition of a three story service wing toward the south, off the new dining room; the kitchen and servants' quarters, originally located in the central connection between the north and south wings, were transferred to the new service wing at this time. Since these changes, the room layouts and functions have remained generally unchanged.

The first floor living areas are distinguished by oak paneling and limestone fireplaces (Figure 2); the dining room has a tile floor, decorated limestone fireplace and windows evocative of a medieval theme. Door and window hardware, wall paneling, fireplaces and flooring were neither antique nor expensively executed at the time of their construction but are characteristic of Edwardian tastes and irreplaceable today.

The original, U-shaped building is timber-framed with stone-faced exterior brick bearing walls; the dining room and service wing have cast-in-place concrete floors with stone-faced exterior brick bearing walls. The sloping areas of the roofs are shingled with red slate.

The total occupiable space on the two main floors is about 10,500 square feet. With the useable areas of the basement and sub-basement contributing another 5,000 square feet, the total useable area is about 15,500 square feet. There is essentially no useable attic, there being mostly cathedral ceilings and dormers on the second floor. The two porches have not been included in the useable area.

Overall, the house is in good condition in spite of modern institutional use and neglect of the roof and windows. The heating and hot water systems are relatively modern but the plumbing and electrical systems are damaged or antiquated and need to be repaired or replaced.

Set into a hillside, the Pumphouse is a small one story shed that houses pumping equipment; exterior architectural features such as the exposed field stone walls and decorative, extended rafter tails are similar to those at the mansion. The wooden floor and roof are decayed and partially collapsed but the walls are in good condition.

The following report was based on several visits to the mansion during the summer of 1995 by personnel retained by Ocmulgee Associates, Inc., consulting structural engineers. These personnel included OA principal Wayne C. King, P.E.; preservation architect William B. Finch; and building services estimator Robert A. Carlson. Room numbers in the following text are shown on the reduced plans enclosed in the Appendix to this report.

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B. Description and Condition of Structural Systems

Roofs. The roofs at the original half of the mansion are supported by 2x wood rafters. At the north wing, the ridge beam and intermediate exposed purlins are supported by decorative kingpost trusses (Figure 3), even at the central third of the wing where they are hidden above the ceilings of the stairwell and a small office. Similarly, decorative queenpost trusses support the roof at the ballroom. The southern pine truss members are connected together by short "bed-bolts". Although not structurally detrimental, the truss timbers are checked, twisted and warped somewhat, a common feature of southern pine. The roof structure of the service wing could not be directly observed; it would not be uncommon that it is wood framed although the floors in that wing are cast in place concrete beams and slabs.

Although most of the roof framing is hidden by plaster finishes or fireproofing, damage was visible in a few locations. At the southwest corner of room 205, above the top of a built-out closet, rot could be seen where there is a gap in the plaster. Likewise, rot has affected a localized area above the hall door outside room 205. The rafters could not be seen directly at this location, but the plaster ceiling and wall is badly damaged and rot was visible in the wall studs.

Judging from the advanced ages of the asphalt shingle roofing at the north porch and the tar-and-gravel roofing at the south porch, it is likely that the porch rafters are damaged by some decay at their ends albeit the ceiling sheathing prevented direct observation of their conditions.

In general, however, there is no sagging or distortion in the exterior planes of the roof that would indicate widespread deterioration of the rafters; those rafters that were visible above the few accessible ceilings were in good condition.

Floors. The structural system varies from location to location depending on the original uses and dates of construction. Although most of the framing is covered by plaster ceilings, much of the first floor framing was visible through holes in the plaster or in crawl spaces. Based on these observations, the following framing systems occur at the first floor:

1. North wing and central section: 2x12 joists with miscellaneous wood beams under partitions and stairs.
2. Ballroom (room 109, original coach house): 6x10 timber beams and wood deck.
3. Dining Room (room 110): 7x10 concrete beams and three inch thick floor slab.
4. Service Wing: Concrete beams and slabs that could be a rib-slab system with terra-cotta infill, as seen at the slab over the boiler room (under room B01).

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The cafeteria (room B01) and porch floors frame over a sub-basement boiler room. This slab consists of 4-1/2 inch wide ribs about 16 inches apart; the space between the ribs is filled solid with terra-cotta units. The hollow terra-cotta was used to reduce the weight of the concrete slab; before the modern need for duct and pipe space between the floor and ceiling, the flush, flat bottom of the terra-cotta with the concrete ribs was useful for the direct application of finish plaster. It is likely that this is the structural system of the first and second floors of the service wing.

Likewise, the structural system of the second floor of the north wing and central section is likely to be similar to the wood joist system of the first floor. The wood framing appears to be in excellent condition. Good construction practices seem to have been followed at the exterior wall; for example, there is an air space surrounding the ends of the 6x10 floor beams of the ballroom where they sit on the exterior wall.

Deterioration has and is affecting concrete floor slabs directly exposed to weather. The patio slab over the "storage" room B06 (with the raised concrete shelf-like floors) is cracked and leaks. Efflorescence and minor spalling are visible along one of the cracks; corroded reinforcing steel is visible elsewhere; and surface scaling is occurring near a small hole in the slab. With a new membrane, the patio area could be easily repaired and stabilized.

In the boiler room, a 12x24 concrete beam has diagonal cracks at both ends; this is usually associated with a shear failure and suggests that the brick corridor wall outside the cafeteria overloaded this beam. Collapse was probably prevented and equilibrium achieved by the wall developing an arching behavior to bypass the beam. The beam does not appear to support anything else besides the wall; it is not known how long this condition has existed.

Foundations. The exterior foundation walls are generally in good condition. Constructed of mortared stone and capped with brick, they have remained stable. But with the building closed-up, dampness has affected those walls coated with paint or plaster. The interior floor structures in the 1904-1920 addition are supported by concrete piers that appear to have been cast by hand, judging from the stony, unconsolidated surface appearance of the piers.

The only area of deterioration in the foundations was at the low walkway walls in room B06 under the patio-like space next to the ballroom. Because the roof slab leaks and water stands on the walkway floor for considerable periods of time, the terra-cotta and plaster construction of the low walls has absorbed the moisture in a manner similar to the way brickwork is affected by rising damp. The plaster is decomposing and the terra-cotta is deteriorating (Figure 4). Apart for its function as a corridor between the original 1904 building and the later service wing, the purpose of this room and its patio-like roof are not obvious.

Window wells convey light into the basement hallway (room B07) and several small workrooms (rooms B08 through B11) directly under the main entrance and its ancillary rooms on the first floor. The wells are covered by gratings and

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screening which are in fair condition; however, the angles framing the perimeter of the grates are corroded and loose, if not actually missing. The bottom of the wells are covered by organic materials up to the bottoms of the windows.

Chimneys. The only one of five chimneys that is open occurs over the kitchen, providing flues for the boiler room and kitchen exhausts. The other four are capped or plugged with three inches of concrete. Four of the five chimneys are in good condition above the roof with only minor deterioration and spalling of mortar joints; the fifth chimney, which serviced the ballroom and dining room fireplaces, is severely cracked and displaced in the upper two feet; this damaged area would have to be taken apart and rebuilt rather than merely being pointed with new mortar. The plaster covering the chimney in room 212 has a wide diagonal crack; further destructive exploration would be needed to determine if the chimney itself is actually damaged.

The two chimneys at the north end of the building appear to have clay flues while the three in the later addition appear to be parged with a cement or plaster coating. Some rehabilitation work will be needed to remove the plugs and caps and repair any damage in the flues.

Pumphouse. The front of the pumphouse is a full story high while the back is completely below grade (Figure 38). The earth slopes upward from front to rear along the side walls. The walls are cast-in-place concrete below grade and mortared field-stone above grade. Both types of walls are in good condition.

The floor appears to be a wood floor with access openings to the pumping equipment. However, it is covered with a thick mat of debris and is collapsed onto the ground at the rear of the single room.

Interior wood walls have been built out from the stonework at the front of the room but stop short of the floor or are rotted and damaged at the ground level.

The attic floor structure is rotted and collapsed. The rafters and sheathing at the front half are locally rotted, especially along the ridge, but the back half is in better condition, being somewhat newer and not original. The rafter tails and edges of the eaves at the back of the roof are covered by ground, as is the bottom of the gable wall at the back. As one would expect, the wood in contact with the ground is extensively rotted. Elsewhere on the roof, shingles are torn and missing, revealing the sheathing underneath. Vines and tree branches also cover the roofing.

C. Description of Plumbing, Heating and Electrical Systems

Plumbing. A two inch cast iron water pipe enters the boiler room at approximately 10 feet below finish grade. The line was installed before 1966 and its routing outside of the building is shown on Detail Sheet No. 34 at the Topsfield

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Water Works. After entering the building, the line splits into two 1-1/2 inch lines, each with a separate meter (Figure 5). Water supply piping inside the building is cast iron, copper and brass and ranges from fair to poor condition; several leaks and taped repairs were noted. Pipe insulation is in poor condition and is known to contain asbestos, according to a 1988 site survey by Dennison Environmental; it is missing or falling in several locations in the basement and crawl spaces due to excessive moisture and humidity (Figure 6).

Sanitary drainage piping is cast iron with some PVC piping. The sewage drain line exits the building through the exterior wall at an unknown location in the basement and flows to an on-site disposal system of unknown location and construction. Bathroom faucets, flush valves and traps are in poor condition and need to be replaced or rebuilt.

All water supply piping and sanitary drainage piping should be tested, inspected and repaired or replaced; all pipe insulation should be replaced with new insulation. A new on-site sewerage disposal system should be installed. The water supply line should be replaced from the water main, which is near the park maintenance building south of the Carriage House and Stable.

Domestic Hot Water. An Amtrol hot water maker Model WH-7P with a circulator and aquastat was installed in late 1990. Piped as a separate zone off the boiler, it has a storage capacity of 41 gallons that may adequately serve the building, depending on the proposed new use. All piping should be tested and insulated.

Fire Protection. No sprinklers, standpipes or firehose connections were noted. A fire hydrant is located at the park maintenance barn and another one is located at the driveway entrance to the mansion, about 1,000 feet away from the house.

Central Heating System. A new Weil-McLain hot water boiler and Carlin Model 801 CRD oil burner (Figure 7) were installed in early 1990. The Model WM BL 889 WS cast iron boiler has a gross rating of 1,904,000 BTU's. The original gravity system was converted to forced hot water but the original eight inch mains are still being used. Copper fuel lines in the boiler room are embedded in concrete. The fresh air intake for boiler combustion is clogged with dirt and debris. At the same time the furnace was installed, non-electric flow valves were installed on most of the cast iron radiators to control the heating system. Some radiators, however, have been disconnected from the system.

Fuel oil is stored in a 1,500 gallon underground tank that is over 30 years old and located outside the porch above the boiler room.

The entire heating system should be drained and flushed; the disconnected radiators should be reconnected and with flow valves; the

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underground fuel tank should be removed and replaced; the copper fuel lines should be replaced; an air combustion louver meeting the building code should be installed; the boiler breaching should be replaced; and the heating system piping should be checked, repaired and insulated.

Electrical System. The original underground electrical service feeders that entered the building through the basement wall have been abandoned but not removed; they have been replaced with an underground conduit that runs out to an overhead transformer mounted on a pole. This service is a metered 120/240 volt, single phase, three wire service fused for 200 amperes.

The existing electrical service has exposed, energized and accessible live components. The branch circuit panels are antiquated, live front panels with cartridge type plug fuses with no means of disconnecting them (Figures 8A and 8B). Electrical panels in occupied spaces are recessed into millwork; panels in the basement and crawl spaces are surface mounted and rusted due to prolonged exposure to moisture and high humidity. Inappropriate conditions that violate the building code include: wiring fused for a higher range than its rating; loose, hanging wires (Figures 8C and 8D); missing junction box covers; cartridge fuses with no means for disconnecting the service; and exposed live wires in areas accessible to unauthorized personnel.

BX armored cable feeds down through plaster walls and ceilings from the attic crawl space. With the exception of missing junction box covers, this wiring appears to be in good condition. Push button type light switches and two prong, ungrounded duplex receptacles are located throughout the mansion, including bathrooms. Many switches are not conveniently located at room entrances. Because some circuits were added over the years, there is a considerable amount of unprotected, exposed wiring, especially in the basement areas.

There is no emergency lighting system nor any hard-wired smoke detectors. The few battery operated smoke detectors are missing covers and batteries. There are active telephone circuit boards in the basement telephone room that serve the Environmental Police and the State Police offices on the first and second floors at the north end of the building. However, many of the telephone wires are hanging from pipes and beams and many appear to be abandoned.

The present electrical system should be removed and replaced with a modern system complying the building code and adequate to serve the needs of any proposed new use for the building.

D. Description of Exterior Elements

Roofing. The roofs are covered with several types of material (Figure 9): a) red slate over the pitched areas (except for a small section of asphalt shingles at the front entrance); b) tar-and-gravel over the flat area of the service wing, south porch and west patio; c) flat seamed, soldered copper sheet in a flattish

area between the service wing and dining room; d) asphalt shingles over the shallow-pitched north porch and the front entrance roof.

About 20 percent of the slate is cracked, broken or missing and needs to be replaced (Figure 11). Copper cap flashing over the slate is loose in several areas and needs to be refastened. Valley flashing is severely deteriorated in many locations and sheathing is visible through holes in the flashing (Figure 12).

The tar-and-gravel roofing is well beyond its useful life and needs to be replaced with a modern membrane. The copper sheeting has pinholes next to the soldered joints and is buckled and torn due to the lack of expansion joints; it needs to be replaced with similar sheeting or with a membrane. The asphalt shingles over the north porch are coated with moss and have worn through to the sheathing in random locations; the shingles appear to have a standard 20-year rating but are probably over 30 years old. They should be replaced with a membrane insofar as the slope of the roof is too shallow for the proper functioning of either asphalt or slate shingles.

The roofs project beyond the walls of the building about two feet, revealing beaded wood soffits. The gabled ends are trimmed with wide bargeboards and decorative brackets supported on stone corbels. The sloping overhangs have scrolled rafter tails supporting the soffit boards. In most locations, the overhanging wood is in excellent condition; considering the lack of decay at exposed end grains, the bargeboards and brackets may be cypress. However, random damage is present: the soffits boards are rotted or missing directly above the side door at the main entrance (Figure 13); the bargeboards at the dining room and ballroom gables are punctured with holes, either from insects or woodpeckers; two of the decorative brackets are missing on the south wall of the ballroom; and bees have established a hive in the west gable of the service wing.

At one time, gutters and downspouts collected water running down the roofs and directed it into the clay boots still visible at the ground in various corners of the building. There are no gutters or downspouts on the eaves at the present time but one can still see the remnants of copper counterflashing and bracing straps at the eave fascia boards.

Walls. The exterior stone-faced walls are in excellent condition in spite of past coverage by vines (Figure 14). Random, narrow cracks occur in the mortar joints but are not unusual for this type of construction; there are no displacements in the stonework. Although the vines have been cut down, large roots are still embedded in mortar joints on the front of the building. At these root locations and at a relatively small number of other locations, the joints should be cleaned, cut back and repointed. In the back of the building, the vines have reestablished themselves. To the extent that these vines may have been planted by Bradley Palmer, they should be pulled away from the building and trained onto new trellises. Because of the rapid growth of vines, they will need constant pruning to prevent them from engaging the building fabric. To the extent that

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these vines are not intentionally planted native species, they should be pulled up. At the southeast corner of the dining room (room no. 110), the stonework was wet when it was observed although it hadn't rained for two or three days. This is the same location where extensive damage is visible indoors in the plasterwork. This wetness suggests, also, that the appearance of sound mortar may be deceptive, at least directly under roof valleys where concentrated streams of water can splash and wash against the stone walls. For example, defective joints on the north side of the west entry vestibule (room 106A) have caused moisture damage to the plaster inside the entry; (this is at the same location of the rotted soffit boards above the side entrance door).

Windows. The exterior condition of the windows is fair but random deterioration occurs in several locations. For example, rot was found in the end grain of the sill horns of two of about a third of the first floor windows (the number actually tested by Ocmulgee Associates by probing with an awl); another window sill (at the wide window set in the back wall opposite the main entrance) was found to be split and severely rotted from water penetrating the split. Rot in the sill horns can be repaired with an epoxy filler but the split sill will have to be replaced. At the left side-window at the main entrance, rot was found in the corner on top of the sill where it meets the brickmold and window rail. A more detailed inventory of deteriorated conditions is in the Mansion Window Survey included in the Appendix.

The windows are typically set about four inches back from the average face of the stonework with mortar filling the gap between the wood brickmold and the stone. A mortar shrinkage crack is usually present along the edge of the brickmold. Generally, this potential source of a leak has not been a problem but leakage has occurred past the brickmold at one of the side windows at the main entrance (room 106A); see a further discussion of this leak in the section on interior conditions, below. This condition could be remedied by cutting (or forming) a groove in the mortar alongside the brickmold and filling it with a sealant.

The window sash itself appears to be generally sound and the dark green paint is largely intact. Typical of most older windows anywhere, the paint is peeling on the sills and lower parts of the sash and the glazing compound is deteriorated (cracked, punky, missing or loose), especially at the bottom horizontal edges of the lites (Figure 15). Because of their swinging double leaf construction, most of the sash no longer hang plumb and square. This has resulted in some windows being unable to close and others that must be forced to close or open.

The sash at the ballroom and dining rooms differs from that at the rest of building insofar as it does not have any wood muntins or bars. Rather, it supports an assembly of leaded glass that fills the whole opening of the sash. As a result of having less material to hold the rails and stiles together, the windows at these rooms are badly sprung and, in one instance at the ballroom, a rail and stile have broken apart (Figure 16). Around the corner from this

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window, overlooking the patio-like area, the leaded glass assembly has twisted out of the sash (Figure 17).

Doors, Entries and Porches. Although all of the doors and their casings are worn and in need of refinishing, only one of the nine exterior doors is actually badly damaged (Figure 18); there are also two sets of double-leaf French doors, similar to the windows in construction. The badly damaged door is in the first floor service corridor and opens out onto the patio-like area; it appears to have been vandalized.

Like most of the exterior doors, the one at the front entrance has bronze interlocking weatherstripping that has become bent and drags on the floor. The kickplate at the front door is rusty and the thin oak veneer on the exterior side is cracked and delaminated. The front door should be refurbished and all of the exterior doors should have their weatherstripping replaced.

Three of the doors are sheltered by porch roofs that cantilever from the building wall. These are in good condition although the one over the side door at the main entrance is missing a section of roof boards on the right hand side (Figure 13).

There are two screened porches, one on the north side and one on south side of the building. The north porch seems to have been built over the top of the red-tiled sidewalk leading to the side entrance that was originally the main entrance. The skirt boards around the base of the porch are sprung, rotted and damaged from chewing animals; the floor joists may be set directly on or just above the ground and may be rotted. (Access into the porch from the corner office (room 103) was never available during the survey). Except for a broken window, however, the walls and beaded-wood ceiling seem to be in good condition.

The south porch originally had open sides. In relatively modern times the sides have been screened and the guardrail openings closed with plywood. The floor of the porch is a concrete slab which also covers over part of the boiler room underneath. The eight inch thick slab is cracked in several places along the projected edge at the porch foundation wall; the corner next to the porch door appears to have settled.

Empty beam pockets in the exterior stonework above the French doors of room 101 indicate the arbor structure that was originally supported there. This area is heavily overgrown with viney and thorny vegetation.

The arbor should be rebuilt, using extant photographs as a guide for replication.

Exterior Features. Existing site features immediately around the mansion include a red-clay tile patio outside room 101 and the entry 102A (Figure 19) and a clay tile sidewalk from entry 102A to the corner of the building outside room 103; overgrown flower beds and decorative shrubs along the edge of the

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patio; an overgrown area outside the French doors on the east end of room 101 where there was originally an arbor; and a patio-like area at the south wall of the ballroom. Supported on a concrete slab, the tiled patio is still level and reasonably intact, although individual tiles are cracked and have surface scaling; the mortar joints have moss and grass growing out of them.

The purpose of the patio-like area outside the ballroom is not readily apparent. Although it seems to be an open air extension of the ballroom, its overall location without a vista, the low, dangerous parapets, its direct access to the service corridor, and its location below the servants quarters all suggest a less-than-formal function. As indicated above, the tar-and-gravel roofing over the patio slab is completely deteriorated (Figure 20); likewise, the flashing between the building walls and this roofing is torn, loose and missing. This deteriorated flashing has allowed extensive water infiltration through the walls, resulting in damage to the interior finishes. The only exterior brick wall on the entire building occurs along one side of this patio; the upper six or seven courses appear to be a different type of brick than the lower part of the wall; the trim boards at the roof eave appear to have been rebuilt several times, often ineptly (Figure 21). It is not apparent why this wall is not clad in stone.

A steel fire escape from the patio-like slab to one of the second floor dormer windows is heavily oxidized but is not corroded. The most common feature of deterioration in a fire escape, namely, rust-scale build-up and rust-jacking between the tread cleats and stringer, is not present on this fire escape.

The character of the east side of the building is obscured by overgrown trees and brush along the service wing and along the building walls of the U-shaped courtyard (Figure 22). Not only does this overgrowth prevent the building fabric from drying out after storms but it invades mortar and wood joints.

Decorative shrubs, vines, trees and old flower beds should be identified and all other invasive growth should be removed. Shrubs and trees should be pruned to manageable sizes or to let light in beneath an overhead canopy; vines should be trained onto new trellises.

E. Description of Interior Elements

The interior of the Bradley Palmer mansion exhibits a wide range of architectural features and conditions, depending on the original intended use and the location of damage in relation to current roof and plumbing defects.

The core of the mansion was originally constructed about 1902 with the principal rooms finished with oak paneling and molded plaster in a Mission Style with English Baronial Style overtones (Figures 1A and 1B). The house was substantially modified and expanded between 1904 and 1920 using a more academic European Renaissance style for the formal rooms and utilitarian

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finishes in the service spaces. This expansion was carried out by converting the original first floor kitchen spaces into a formal entry hall and the former stable and coach house into a large scale dining room and hall for formal entertaining. A sizable wing was added to the south of the dining room to contain an extensive range of service rooms.

Specific architectural features, materials, conditions and preservation priorities are described below on a general basis followed by room by room details for the principal spaces and groups of spaces for the service areas. Each space or group of spaces has been assigned a preservation priority ranking to aid in planning reuse treatments in conformance to the Secretary of Interior's Standards. "High" indicates that the space is of substantial architectural importance to the house. All its early features and spatial configuration should be preserved in any reuse. "Moderate" indicates that some degree of modification would be acceptable, but some specific features have been singled out for a strict preservation treatment. "Low" indicates that the space is of minor importance and that major spatial reconfiguration to accommodate new uses would be an acceptable treatment.

Principal First Floor Rooms, General Conditions

Woodwork. All of the principal first floor rooms have elaborate paneling and trim consisting of dark-stained wood (usually oak); the finish appears to be a thin application of shellac or possibly a varnish as a sealer over a stained base, followed by coatings of wax. With a few exceptions, the overall condition of the woodwork is good but with varying amounts of wear and discoloration to the finish.

Except where noted in the room descriptions below, the woodwork should be cleaned to remove built up grime and wax while retaining the base finish and it should be rewaxed with a dark paste wax. Before commencing with cleaning and repair work, tests should be conducted to confirm the specific nature of the existing finishes and the most effective methods for cleaning and touchup work. This work should be carried out by craftsmen experienced in the restoration of furniture finishes rather than conventional painters.

Plaster. The plaster is a traditional three coat finish composed primarily of lime and sand with a horsehair binder applied over wood lath; it appears to be original to each space. Some rooms have ceilings with panels defined by plaster moldings and elaborate plaster cornices. In some spaces the flat plaster is finished with a rough sanded texture. The plaster is generally in sound condition with most of the "keys" intact but there is a moderate amount of key breakdown and ceiling cracks that often run through moldings and cornices into the wall planes. Limited areas of more substantial damage are described in the room descriptions below.

All plaster cracks should be cut back and repaired using routine modern patching methods and materials. Proper repair of cracks in the molded sections will

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require templates cut to match the profiles; a high level of craftsmanship will also be required. Special care should be taken to match all patches with the adjacent surface textures.

Paint. Paint is generally confined to the plaster surfaces and is typically sound but worn and dirty. There are no unique treatments or decorative schemes and none of the current painted finishes appear to be original. Given the age of the structure it is likely that some layers of the existing coatings contain lead; however, no tests for lead were made as a part of this study.

Floors. The original flooring in all rooms (except the entry hall, the ballroom hall and the dining room) is quartered oak laid in 3" wide tongue and groove strips. This is currently covered in most spaces with modern wall to wall carpeting. The condition of the floor could not be examined in detail due to the carpeting but it should be assumed that refinishing will be required. The oak was probably originally stained to a medium brown to fit in with the paneling.

The flooring should be sanded as lightly as possible to avoid making the upper tongues too thin and it should be refinished with a medium tone stain and a mid- or low-gloss finish. The existing wall to wall carpeting should be fully removed to determine if additional repairs are required. New wall to wall carpeting would be acceptable provided its installation did not further damage the original flooring. The installation of tiles, linoleum or other new flooring that would require the application of mastics or extensive nailing would not be acceptable floor treatments.

Windows. The window sashes are generally outward opening wood casements constructed of white pine and are original to the building. Most are fitted with interior wood storm panels of oak (or white pine in some rooms) that appear to be either original or early additions. Some windows have one or more white pine screen panels instead of glass. The inner casework is usually oak while the jamb linings are white pine. All window components are stained to match the interior woodwork. The finish on the sash and interior sills is generally worn and water stained from condensation and defective glazing compound; the finish on the other components is generally sound. The brass window hardware, original to the building, is generally serviceable but typically stiff with small components frequently missing (Figure 23). The external condition of the windows was discussed above; detailed information is also in the report included in the Appendix to this report.

In general, the windows can be characterized as high quality systems that have deteriorated to the extent that basic refurbishment is required at all sash; more extensive repairs are needed at about 40 percent of the units and about five percent of the units need to be replaced. While duplicate new sash could be constructed, they would be very expensive and unlikely to match the quality of the existing materials. Therefore, the amount of replacement sash should be

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minimized and a comprehensive repair program should be implemented to save as much of the existing sash as possible. The repairs should retain the existing hardware as much as possible with any replacement hardware being similar in type and finish. The interior finish of the repaired sash should match the existing stained wood. The original or early use of interior storm sash and screens should be retained and also added to any window units where they are currently missing. However, the vapor seal of the storm sash should be modified to order to prevent condensation from forming on the principal sash. This work should only be carried out by carpentry contractors experienced in the full restoration and repair of historic wood windows and the use of epoxies for woodwork conservation.

At the leaded and painted (stained) glass windows, exterior wood storm windows should be added to the fixed sash in order to protect them from vandalism and weather, even though exterior storms were not part of the original design. However, only interior storms can be used at the outward opening moveable sash. While these would obscure the character of the leaded glass somewhat, they would be acceptable as long as the installation does not permanently alter or damage the interior casings.

Doors. Interior doors are constructed of oak to match the paneling in the specific rooms. Most are in sound condition with finish type and condition matching the adjacent paneling. Exterior doors are fully glazed to match the casement sash but have wood glazing stops instead of glazing compound and are typically in better condition than the sash. Some are fitted with external glazed storm doors that have moderately weathered surfaces and will require some carpentry/epoxy repair and filling prior to repainting. All doors appear to be original and should be retained or replicated.

Lighting. The original lighting in the first floor has all been removed and replaced with modern fixtures. According to the current park staff, this occurred some twenty years ago. Except for two hanging fixtures in the stair hall, all the original lighting was by wall sconces; modern replacements have been installed in the same locations. The outline of the original fixtures can be discerned in the finish at some of the locations. No other evidence, such as period photographs, has been located to determine the appearance of the original fixtures. Most of the modern fixtures are visually innocuous but do not provide very effective lighting. Many of the original or early switch plates and call buttons remain on the walls in operating condition; a number of these are concealed behind hinged panels in the wall paneling (Figure 24).

Except for some modern fluorescent ceiling fixtures that should be removed, most of the existing modern fixtures are functional, visually unobtrusive and can be retained if desired. Replacement fixtures should be carefully selected to be appropriate to the architecture of the spaces, ideally using modern reproduction fixtures or refurbished period ones. Additional lighting should be provided by task lighting. If it is necessary to add fixtures in new locations, such as flush mounted ceiling cans, they should be carefully reviewed to ensure they do not

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degrade the architectural character of the most important spaces. The placement of new fixture locations should be limited to plaster surfaces, as the woodwork should not be disfigured to install light fixtures. Where feasible, the early switch plates should be retained and rewired; the concealed switches should be retained in place even if they cannot be reused as functioning switches.

Principal First Floor Rooms, Special Conditions

Room 101 - Library (Preservation Priority: High). This room is fitted out as an English Renaissance Style library with built-in full height shelving above paneled cupboards on all walls. The panels are shaped to look like open books. Several cupboard doors also have clear leaded glass with decorative cast lead comes. There is a formal fireplace on the west wall with an intricately carved bolection mold surround, paneled overmantel and freestanding columns supporting a generous cornice at the ceiling. The wood cornice continues around the entire room and incorporates carved moldings and dentils. The woodwork appears to be cherry with a mahogany color stain.

The woodwork is generally in good condition but there are missing dentils (Figure 25), heavy waterstaining on the window seats and one window jamb (Figure 26) and a fine split in one of the fireplace columns. There are also some areas of unevenness in the color of the finish. One window has extensive damage to the muntins (sash bars), probably from a squirrel chewing the wood.

The brick firebox is framed with plain limestone and the brick hearth is painted. The ceiling is original plaster having molded elements that define large panels. In addition to the typical amount of cracking there appears to be some loss of keying that will require plaster washers to secure the ceiling prior to repairing the cracks (Figure 27). The plaster on the east wall is actually gypsum panels with a textured surface; this may be a later infill of former bookcases. The radiators below the windows are concealed as window seats with brass (tarnished) ventilation grills.

All the above elements except the gypsum plaster panels appear to be original to the 1902 construction.

Repairs beyond the base level include replacing missing parts of the wood cornice, repairing water damage to woodwork and repairing damaged plaster keys at the ceiling.

Room 102 - Stair Hall (Preservation Priority: High). This room is finished with solid quartered-oak paneling in a Mission Style and is the most architecturally creative space in the house. It served as the main entry in the 1902 construction but the subsequent alterations moved this function to the west facade. It also was probably intended to function as the living room or, in English country house terms, the living hall. The room incorporates a large built-in settle by the entry door and a built-in inglenook to the side of the fireplace. The fireplace has a

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molded limestone surround and tile hearth that is in good condition. Small panels of stained glass using Mission Style motifs are incorporated into various doors and cupboards.

The wood paneling rises to three-quarters of the wall height and is topped with a plain plaster frieze having a rough sanded surface texture. The panels are of solid quartered oak that are composed of two or more edge-glued pieces. About ten percent of the panel glue joints have split apart, mostly due to moisture from leaks above (Figure 28). Repair of these cracks would require complete disassembly of the paneling to remove and reglue the panels. As these defects are not highly noticeable in the low light of this space, their repair is not recommended as a high priority.

One panel on the west wall has been replaced with plywood and it, in turn, should be replaced with a new panel of quartered oak. The rails and stiles of the paneling are secured with very distinctive protruding oak pins which may be cosmetic rather than functional. A number of these pins are missing on the west wall and should be replaced.

The upper portion of the settle by the entry door appears to have been fitted with a wood screen or panel that is now missing. This could either be restored or the existing open mortise pockets could be filled in with a wood dutchman to make the damage less noticeable.

The ceiling is composed of exposed yellow pine joists and beams stained to match the oak woodwork, with rough plaster panels between. Although the oak woodwork is in good condition, the yellow pine joists have several sizable cosmetic checking cracks. The large central north/south beam and the posts under it are encased with stained oak boards. Exposed iron bolts secure large brackets from the posts to the main beam.

Several plaster panels of the ceiling have fallen and others have been inappropriately repaired with a smooth plaster surface that does not match the original rough texture. There is moderate water damage to the plaster ceiling and wall frieze at the southwest corner due to both plumbing and roof leaks above; damage is also present adjacent to the main entry doors on the north wall.

The stained glass in this space is in good condition and of high artistic quality in the Mission Style. The two upper panels of the closet door under the stair were originally glazed with stained glass that is now missing (Figure 29). Repair of these glazed panels could either be with new stained glass custom-made to match the character of the other glass in the room or with new oak panels to match the wood and finish in the panels below.

The doors in this space retain their original elaborate cast and wrought iron hardware. This hardware is of high artistic quality and in good condition except at the closet door under the stair where some elements are missing. This hardware should be retained and missing elements should be replaced.

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The original oak stair treads are now covered with linoleum strips that are in poor condition. These should be removed and the original wood treads refinished or replaced with matching new wood, depending on condition.

The two existing hanging lantern light fixtures are modern but are located in the position of early fixtures. There is an obvious outline of a former large scale sconce visible on the post above the end of the settee.

Repairs for this room beyond the base level include ceiling and wall plaster patching, stair treads, woodwork repairs to the main settle, replacement of a missing wall panel and decorative pegs, replacement of two missing stained glass panels with glass or wood and hardware repairs to one wrought iron latch.

Room 102A - Entry Vestibule (Preservation Priority: High). This small room matches the entry hall except that the floor is composed of Grueby tiles that should be retained as an important original decorative item. Care should be taken in cleaning this floor to avoid any abrasive damage to these tiles. There is some ceiling plaster damage due to radiator leaks in the space above.

Room 103 - Old Dining Room (Preservation Priority: High). This room features a quartered oak paneled wainscot to chair rail height around the entire room, a limestone fireplace surround carved with swags after the English style of Robert Adam, a stone hearth and a plaster cornice with small dentils, again in an English Adamesque style. All the features appear to be original to the 1902 construction. The room probably functioned as a living room after the stable was converted to the ballroom.

The doors to the stair hall are sliding pocket doors of quartered oak. Their finish is noticeably lighter than the adjacent wainscot, probably because they were kept open most of the time and escaped much of the dirt, grime and exposure to light that has darkened the exposed finishes. The doors suggests that the original appearance of the woodwork finishes was somewhat lighter than the current appearance and should serve as a model for the refurbishment of the woodwork in this room.

The wall plaster has a thick application of sanded paint that was probably applied to conceal plaster repairs or to be consistent with the rough original plaster in the entry hall. The original surface was probably smooth in keeping with the architectural style of this room. It would be desirable to restore the original smooth surface. However, retention of the existing rough surface would also be an acceptable treatment.

The modern fluorescent fixture in the center of the room is visually inappropriate to this space, and should be replaced by new wall sconces.

The door to the entry hall has stained glass panels in good condition.

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This room does not exhibit any unusual or extensive repairs beyond the base repair level.

Room 104 - Hall Connector (Preservation Priority: High). This small room was finished in the 1902 construction as a bathroom but was completely remodeled in the ca. 1904-20 renovations to link the new main entry hall on the west facade to the stair hall on the north. This room is fully paneled in oak to just below the ceiling cornice to match the Old English Style paneling installed at the same time in the entry hall. As there are some minor differences in the panel detailing, this room may have been done over a little later than the entry hall, perhaps in order to by-pass the living room.

The panels are composed of plain, sawn oak veneer over an oak frame rather than the solid quartered oak panels used in the 1902 construction. The ceiling cornice is molded wood rather than plaster and the floor has an oak parquet border. There is a mysterious section of flat oak planks on the east wall with the distinct shadow of a large object that was formally mounted on it, such as a wall clock.

The finishes have substantial areas of heavy water damage due to leaks from the plumbing in the bathroom above and the roof above that (Figure 30). The veneer of some of the panels has delaminated and curled and in some areas the rails and stiles have warped and buckled. The parquet flooring has come unglued in the northeast corner and is badly water stained. The plaster ceiling has mostly collapsed and a portion of the wood cornice is missing.

This room is important in the spatial sequence of the principal first floor rooms and should be restored. This will require new paneling to match the existing on about fifty percent of the surfaces with complete refinishing of all the woodwork, replacement of the damaged flooring to match the existing, duplication of the missing cornice sections and replacement of the plaster ceiling.

Room 105 - Office (Preservation Priority: High). This Mission Style room remains as originally constructed in 1902 except that the woodwork, which has been painted for many years, may have originally been varnished. The woodwork is a simple paneled wainscot on three walls, rising to two-thirds of the wall height with plain plaster above and with a wood modillioned cornice. The woodwork on the fireplace wall rises to almost the full height and incorporates a broad shelf or plate rack with glazed cupboards on either side of the simple fireplace. The terra cotta fireplace surround seems slightly out of place and may have replaced more decorative original tiles. There is a small corner cupboard in the south east corner with a mission style leaded glass door.

The room is in sound condition except that the glazing in the door to the right of the fireplace has been replaced with a solid panel. There are a few plaster patches and more extensive cracking in the wall at the southwest corner. The fluorescent light in the ceiling is inappropriate for the space.

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Although it is relatively simple room, it should be generally retained as it currently exists but with base repairs. An optional treatment would be to remove the paint and restore a natural finish to the woodwork provided that further in-situ paint testing confirms this was the original treatment.

Room 106 - Entry Hall (Preservation Priority: High). This large T shaped space was a conversion of the original kitchen and butler's pantry into the main entrance as part of the ca. 1904-20 renovations. It is finished with full height, flat-sawn oak veneer paneling (similar to Room 104) on all walls. It is further enriched with fluted ionic pilasters at the various openings and doors and paneled segmental arches in the corridor portion of the room. The flat ceiling has a molded plaster cornice; typical plaster cracking is present.

The paneling is in generally sound condition but is missing some small molded elements and baseboard pieces at several of the pilaster bases (Figure 31). The finish shows more wear and variable color than most of the other rooms especially in the northerly corridor leading to room 104.

There is a wood window seat and radiator cover below the east wall window that is heavily worn and has loose and/or broken wood screening. This requires refinishing and repair.

The front door is constructed of similar oak paneling as the walls and is flanked with leaded glass sidelights having a single painted and stained glass heraldic panel in each lite. These panels appear to be contemporary to the house and are executed in imitation of medieval glass; they are more fully discussed under Room 110. The glass is sound but one poorly executed repair at the bottom of the left side leaded glass should be redone.

The original floor has random width boards that appear to be teak in a medium brown finish with contrasting dark 1/4 inch wide wood splines between the boards, oversize pegs and random butterfly patches to simulate an Old English appearance. This flooring may be a custom order catalog product manufactured by Wood-Mosaic Company of Louisville, Kentucky and was known as "Colonial Flooring". Available in the 1920's and '30's, it was a three-ply laminated board about 13/16 inch thick; the top veneer was available in a variety of wood species. The installation at the Bradley Palmer mansion included all of the available options (plugs, dovetail keys and contrasting wood splines).

This flooring has been partially covered with an inappropriate modern linoleum as a wearing surface; the visible wood is badly waterstained but otherwise appears sound. The tacks for the metal strips securing the linoleum to the wood floor have probably done some minor damage; the linoleum should be removed, any damage corrected. However, any sanding should be done very lightly in order to not wear through the final veneer, which is probably about 3/16 inch thick.

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Repairs to this room beyond the base level include replacement of small missing trim elements and base boards of the paneling and window seat, extensive wood finish touch up and refinishing, exposing and refinishing of the flooring and some minimal leaded glass repair.

Room 106A - Entry Vestibule (Preservation Priority: High). This vestibule and main door were added as completely new exterior elements in the ca. 1904-20 renovations. The exterior door has thick oak veneer that is lifting and cracking at the bottom of the exterior side due to water damage; the exterior side has carved oak decoration in the jambs. The door and jambs are currently painted but were probably originally stained and oiled in a dark natural finish. The existing side door into room 107 was the original entrance at this side of the building this door and was probably the service entrance.

The interior walls of the vestibule are a special plaster scored to simulate masonry blocks imitating the appearance of Caen stone, a French limestone. There is water damage on the north side wall due to severely defective exterior mortar joints adjacent to the window frame (Figure 32). This damage to the scored plaster requires skilled repair to maintain the correct texture of the surface.

The floor is tiled and in sound condition.

The sidelights are clear glass set in patterned cast lead comes. These are sound except for several pieces of cracked glass, which should be left alone. The southerly glass panel is loose within its wood frame; it should be firmly secured in the frame. There are clear leaded glass casement sash in the side walls, each side with a single painted heraldic panel. These appear to be sound and do not require repair but the installation of exterior glazing is recommended to protect them from vandalism.

Repairs are required at the water damaged Caen stone plaster and the front door requires extensive regluing and refinishing on the exterior side.

Room 109 - Ballroom Hall (Preservation Priority: High). This room was converted to its current form and finishes from the original Coach House during the ca. 1904-20 renovations. At that time the original barn door and hay loft door above it were converted to casement windows and doors, as were the other masonry openings at this room. The space is now two stories high with exposed, wood roof framing. The roof trusses, rafters and purlins have a consciously applied hand hewn finish. It is not known if this dates to the original coach house or was added when the space was converted. The vertical truss members into which the iron tie rods that support the balcony disappear are actually cosmetic, being made up of one inch thick boarding covering the rods as they continue to the top of the truss.

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The lower portion of the west wall is finished with oak paneling similar to the entry hall; a balcony on the west wall crosses the full width of hall. Trimmed with well-executed carved oak elements, the balcony rail and soffit are partially supported by iron rods suspended from the roof truss above them.

The east end of the ballroom is finished by a large walk-in fireplace with a carved limestone mantel, stone hearth and oak overmantel flanked by oak bookcases. The southerly range of bookcases has missing shelves and is partially blocked up with plywood.

The wood and stone features appear to be contemporaneous with the 1904-20 renovations; that is, they were made for this space rather than being imported antique elements. All of these features are in good condition and little repair work is required other than surface cleaning and waxing of the woodwork.

The main floor is currently covered with worn wall to wall carpeting but the balcony has exposed, narrow- heart yellow pine. Based on small sections visible beneath defects in the carpet, the floor is a continuation of the special wide board flooring in Room 106. Unlike the entry hall, the current color of the wide boards is quite light, which may be the color originally intended. The condition of the floor beneath the carpet is not known.

The plaster walls and panels between the exposed ceiling framing retain their original rough textured surface and are generally in sound condition with minor cracking and worn painted surfaces. The south wall, however, exhibits water damage along the base due to the severely defective roofing and flashing on the patio-like deck outside this wall. The bottom two feet of plaster will have to be replaced after the deck is fully repaired. The north wall has a line of deep cuts from the abrasion of former classroom tables.

Of antiquarian interest, there are some old hooks remaining at the top of the upper part of the north wall that were probably used to hang cloth tapestries during Bradley Palmer's occupancy. These would have added considerable visual warmth to what is now a rather barren and stark space.

Lighting is by a central chandelier, modern spots on the easterly truss, ceiling mounted fluorescent fixtures and several fairly modern replacement sconces at the rear of the room. One switch panel is concealed in the northerly jamb behind the door to room 110 and another is in a window jamb. The chandelier appears to be a twenty to forty year old replacement of the original. There is a larger brass chandelier currently sitting on the floor of the balcony which may be the original one for this space. Refurbishment and installation of this chandelier should be considered. The modern spots and florescent fixtures should be removed entirely or replaced with less obtrusive modern lighting; the sconces are crudely mounted on wood plaques with surface wiring and should be replaced.

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The windows are wood casement sash glazed with leaded clear glass; the wood French doors at the south wall are flanked by all wood casement sash. All the casements containing leaded glass are in extremely poor condition and require replacement. The leaded glass should be repaired by a crafter experienced with routine stained glass work (a firm specializing in the conservation of fine-art stained glass is not necessary) and installed in new wood sash. The original internal storm sash are missing and the jambs and wood sills are in worn condition. The north and south wall windows have stone sills on the interior that require cleaning and waxing but are otherwise sound.

Work needed besides the base repairs includes installing all new sash incorporating the existing leaded glass panels; removing inappropriate storm sash from the French doors on the south wall; installing interior storm sash and repairing the interior window frames and sills; replacing defective plaster at the base of the south wall and repairing abrasions at the north wall; removing carpet and repairing the floor as required; and reworking the lighting fixtures, possibly using the chandelier stored on balcony floor.

Room 110 - Dining Room (Preservation Priority: High). This room was converted to its current form and finishes from the original Stable during the the 1904-20 renovations. This room, the ballroom hall and the adjacent institutional scale kitchen facilities were clearly added to facilitate entertaining on a lavish scale that could not be accommodated in the original construction. The dining room is 1-1/2 stories high with exposed wood framing in the ceiling similar to the ballroom hall. Finish wood work is confined to the expertly-carved oak medieval style buffet adjacent to the fireplace, large paneled doors, window trim and window seats/radiator covers. Except for moderate wear and tear at the window seats, the woodwork is in good condition and primarily requires basic cleaning. The door hardware is more elaborate than in other spaces but is partially missing.

The walls and ceiling are white painted plaster in generally sound condition except at the southeast corner where there has been extensive damage due to leaks from the severely defective roof valley above (Figure 33). This area will require partial removal and new plaster. There is also extensive surface abrasion similar to Room 109 from former classroom tables.

There is a carved limestone walk-in scale fireplace on the west wall that is lined with a large number of 18th century Delft tiles. Most of the tiles are in good condition and require no special work. They make a picturesque setting but are not of exceptional quality or rarity as antique tiles except for the large number of them present at this location. The hearth is a soft greenish stone that has substantial damage from abrasion. The stone should be re honed to polish out the abrasion by a specialist firm experienced in stone refinishing.

The tile plaque on the south wall is reputed to come from a Mexican church but it is probably Mexican or Spanish tile made in the early twentieth century for

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the export market. The execution of the painting is mediocre, with most of the faces being identical in expression and form. It appears to be in sound condition and requires no special treatment.

The windows are clear leaded glass set in wood frames, with small painted and stained heraldic glass panels in the center of sash. The panels appear to be early twentieth century work executed in a Medieval Style, complete with antiquing of the exterior surface of the glass to imitate the patina of genuine medieval stained glass (Figures 34A and 34B). The glass and leading appear to be in sound condition except for a few cracked pieces of glass. Needed work is limited to routine repair and painting of the wood sash and frames and replacement of the cracked glass. The replacement of cracked glass should only be done by skilled stained glass restorers. Although some of the painted, leaded lites are protected by external glazing, this should be added at all of the leaded sash for long term protection. Because the heraldic images are painted on the interior surface of the glass, they require special care when the windows are cleaned. While currently sound, this paint can easily be damaged by any aggressive cleaning. They are actually best left uncleaned but can be cleaned if only water and soft cloths are used with no rubbing.

There is a single chandelier in the center of the room composed of gilded (probably bronze paint) and bronze patinated or painted metal; some of the painted surfaces are flaking and require touch-up treatment. This fixture may be original to the space and should be retained. Special care should be taken when cleaning this fixture in order to not damage the bronze paint or the painted and patinated surfaces by overly aggressive scrubbing and polishing. The use of a brass polish to brighten the gilding will simply take the bronze paint off and ruin the fixture. Only mild soap and water should be used. There are modern wall sconces and four fluorescent fixtures attached to the ceiling trusses, all of which are inappropriate. These should be replaced with either less obtrusive modern lighting or reproduction fixtures more appropriate to the space.

The floor is a black and white ceramic tile that is in serviceable condition except for surface dirt and some staining from the roof leaks. The tile should be fully cleaned to remove all wax and any other coatings and then rewaxed.

Needed work beyond the base repairs includes repair of plaster damaged from water and abrasion, installation of protective glazing on the leaded glass and rehoning of the fireplace hearth stones,.

Secondary Rooms, All Floors, General Conditions

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The finishes and character of the secondary rooms are very plain and utilitarian. Only the primary bedrooms on the second floor have distinguishing features and these are limited to simple Mission Style fireplaces and built in settles.

Woodwork. Woodwork is simple, being either stained or varnished yellow pine paneled-doors and trim or similar woodwork that has been painted. All the woodwork is painted in the kitchen related rooms in the basement and first floor service wing.

The service area woodwork finishes require substantial preparation and refinishing. It is generally recommended that all existing naturally finished woodwork that is to be retained should be refinished with stain and drying oils or varnish rather than paint. Woodwork added to the rooms with natural finishes should be of the same species and finish rather than stock pine.

Plaster. The plaster is generally three layers with a smooth finish applied over a metal lath. It is in similar condition and requires a similar level of repair as described under the principal spaces above, except that some areas of the second floor ceilings and upper walls have extensive water damage from leaking roof flashings. These areas will require replacement of the damaged plaster. Their locations are described in the room descriptions below.

Paint. Painted surfaces and their treatment are typically as described for the principal rooms. There is a considerable amount of painted woodwork in worn condition. Although no tests were made as a part of this study, it should be assumed due to the age of the structure that all painted woodwork probably has some layers of lead based paint; however, no tests for lead were made as a part of this study.

Floors. The original flooring in the second floor rooms of the original 1902 building is straight grained tongue-and-groove heartwood yellow pine in fair condition with a medium brown varnish finish. All the flooring that is to be exposed should be fully refinished. Sanding should be done as lightly as possible to avoid making the upper tongues too thin. If replacement of some sections is required, salvaged yellow pine flooring rather than new wood should be used to obtain a good match with the existing flooring. New yellow pine heartwood flooring usually proves to be a very poor match to the old growth wood used in these floors. New wall to wall carpeting would be an acceptable treatment provided its installation does not further damage the existing flooring.

In the service wing, the original finish treatment of the structural concrete slabs was probably either paint or linoleum. Currently most of the floors are covered with vinyl tile in worn condition and wall to wall carpet in very poor condition. Moderate shrinkage cracks in the concrete floors are apparent in a number of locations, especially the long hallways. With the exception of the first floor service hall, there are no historic preservation concerns regarding the concrete floors.

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Windows. The windows are generally the same as described under the principal rooms and the treatment recommendations are similar. However, the windows in the service wing are typically more deteriorated than those in the main block and will require a higher percentage of repairs to their corners and general rebuilding. The window finishes match that of the wood trim within each room, usually being painted rather than varnished.

Doors. Interior doors are constructed of yellow pine finished to match the wood trim in the specific rooms. Most are in serviceable condition but a few in the principal bedrooms have had panels and moldings badly damaged from vandalism.

Exterior doors in the service wing are typically in substantially poorer condition than the main block and will require substantial repair or replacement.

Lighting. The original lighting fixtures in many of these spaces have been removed and replaced with modern fixtures or they remain, in some cases, but are very plain and utilitarian. The lighting in these spaces may be replaced as needed to make the spaces functional.

Bathrooms. The second floor bathrooms in the original block all retain their original fixtures with tile walls and floors. At least one of these bathrooms should be preserved intact (preferably at Room 204 with its marble stall shower) and the others should retain their fixtures and tile surfaces to the extent feasible. The other bathrooms have had some of their original fixtures and finishes changed and do not require full preservation treatment. However, some original marble sinks do remain in place in several bathrooms and these should be retained and reused to the extent possible if the rest of each bathroom is refurbished.

Kitchen Facilities. Descriptions in previous reports of the building suggest that the kitchen facilities are of historic value because they retain early twentieth century appliances intact. In our opinion, most of the appliances and room finishes date from the institutional usage of the building by the state Department of Environmental Management and were probably installed in the 1950's. These spaces and features do not have sufficient integrity to warrant preservation treatment. There are, however, a few individual features such as the dumb waiter and safe in the serving room (room 112) and the built in icebox and pantry shelving (Figure 35) in the room directly below (rooms B03 and B04) that are early elements worthy of retention and preservation.

One other basement feature of interest is what appears to be a former basement areaway entry outside room B09, just below the original 1902 kitchen. Although not an essential feature to preserve, it is of academic interest to understanding the evolution of the building and should be retained if convenient.

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Secondary Rooms, All Floors, Special Conditions

Rooms 107 and 108 - Stairs and Bathroom (Preservation Priority: Low). These small utilitarian suites of rooms date to the 1904-20 renovations. The bathroom has been substantially altered, although it retains its original marble sink. Its finishes are now in poor condition and it would require a complete redesign if it were to continue as a bathroom, both to meet codes and functional needs. The circular stair is an interesting feature that is desirable, but not mandatory, to preserve. It is probably original to the 1904-20 renovations.

Room 111 - Service Hallway (Preservation Priority: Moderate).

Although a service space, this long hallway retains a number of distinctive early design features that should be preserved. These include the wood wall panels applied to the plaster wall, plaster ceiling cornices and molded arches that probably conceal structural members. The wall panels are made up of plywood and may be a ca. 1930's installation, as there is painted plaster behind them; the plywood panels have always been painted. One small panel area has damage from water leaking through at the faulty patio-deck flashing; the panel should be retained and repaired. The ceiling, which has considerable water damage at the north end, should not be dropped to install mechanical systems.

The floor is a rather curious combination of concrete with tiles set around the edges as a border; it is now painted over. Care should be taken not to damage the tiles in any floor treatment but it is not necessary to restore the original appearance by stripping the paint. If a tenant chooses to strip the paint, it should be done using proprietary chemical strippers with brushes and/or moderate pressure water rinsing, taking care not to etch or scratch the tile surface. Specific chemicals should be selected after on-site testing of small samples. The installation of wall to wall carpeting would be acceptable provided no damage is done to the tiles and holes for fastening to the concrete floor are minimal. Treatments that require a troweled mastic surface to be applied directly to the concrete should not be allowed in this hallway.

Lighting fixtures in this space include modern spots mounted on the paneling. The ceiling fixture shades may date from between the 1920's to the 1940's and should be retained if convenient.

The elevator doors at the northern end should be retained and left in place, even if the shaftway is converted to other uses such as HVAC ducting. The elevator cab does need not be retained.

Room 112 - Serving Room (Preservation Priority: Moderate). This room retains three original features that are desirable to retain in place as symbolic reminders of its original function. These are the safe, the dumbwaiter and the leather-padded swinging doors to the dining room. In other respects the room may be modified as needed to serve new functions including the removal of the south wall if necessary to create larger functional spaces.

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There is currently extensive plaster damage in the northeast corner due to a defective roof valley above.

Room 116 - Service Living Room (Preservation Priority: Moderate). This room served originally as the living room for a suite of rooms (113, 114, 115 and 116) that were probably used as an apartment by a high level member of the service staff. It is finished with a fireplace having a federal style wood mantel piece and a simple cornice at the ceiling. The fireplace and mantel should be retained and preserved but other features may be changed as required for reuse.

Rooms 112A, 113, 114, 115, 117 and 118 (Preservation Priority: Low). These rooms have painted wood-panel doors and trim with simple, utilitarian finishes. There are also two utilitarian stairways. The bathroom retains its marble sink, which should be preserved if the bathroom use is continued. In general, however, existing surface finishes in these spaces are worn and require full renewal. The overall layout of these spaces (which is original) may not be functional for new uses and may be altered as required.

Rooms 201 through 205 (Preservation Priority: Moderate). These spaces all appear to be original to the 1902 construction and their trim retains the original dark-stained woodwork finish; this finish is different from the first floor. The finish is currently very dry and has a slightly eroded surface that reveals the texture of the grain. As this surface is fairly uniform throughout these rooms, we assume that it is intentional. Perhaps it was achieved by wire brushing the wood prior to staining and then giving it an oil finish that has now dried out.

Compared with the downstairs, the level of architectural finishing is quite modest. The primary features are the exposed wood trusses (rooms 201 and 205) and fireplaces with built in settles (rooms 201, 202, and 205). All the woodwork including the trusses and the floors is southern yellow pine except the window sash which appears to be white pine. The door hardware is polished brass Norfolk latches. Decorative round wood grills ventilate 201 and 205 into the attic space over rooms 202 and 203). All of these features should be retained.

One puzzle about these spaces is that the roof trusses concealed by the ceiling of the stair hall and middle bedrooms (rooms 202 and 203) are fully dressed and finished just like the exposed trusses in 201 and 205. While this treatment suggests that the trusses were intended to be exposed in these spaces as well, this makes little sense in relation to the layout of these spaces and the location of the chimney stacks. One can only speculate that perhaps the original plans called for an open hall as a continuation of the stair hall, but that this was modified during the initial 1902 construction to install the small middle bedroom; or, perhaps the bedroom was added during the 1904-20 renovations to provide an additional guest bedroom.

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The condition of these spaces is generally sound but worn, with the usual minor plaster cracking throughout. There is considerable damage to the ceiling and upper wall plaster in rooms 201, 203 and 205 from roof leaks in the valley and chimney flashings. Room 202 has similar damage at a more modest scale from similar causes. The doors into rooms 201 and 205 have been badly damaged by vandalism and require major repair or replacement. One settle adjacent to the fireplace in room 205 also has substantial vandalism damage. Window seats/radiator covers in these spaces are worn and require work similar to the covers in room 101.

Rooms 204 and 206 - Bathrooms (Preservation Priority: Moderate). These bathrooms retains most of their original early twentieth century finishes and fixtures, including molded and colored wall tiles. Room 204 also has a marble slab stall shower. There has been considerable damage to the ceiling and upper plaster wall surfaces from roof leaks and damage to the floor and wall tiles below the sink from past plumbing leaks in room 204 (Figure 36).

These rooms are of historical interest because they are essentially intact period bathrooms and should be renovated with care to retain the wall and floor tiles, the marble sinks and the stall shower. The current mirrors are probably modern and can be replaced. While it would be desirable to retain the existing plumbing fixtures (faucets, toilet, etc.), this may be difficult to do. There are a wide variety of new reproduction fixtures available that would be acceptable substitutes for the original fixtures. Replacement for missing tiles can probably be obtained through specialist tile suppliers at the Boston Decorator's Building or Shep Brown, Inc. of South Boston. The retention of room 204 should be given higher priority than room 206 because of the unusual marble shower.

Rooms 207 through 213 - Guest/Service Rooms (Preservation Priority: Low). These rooms comprise a suite of small guest rooms and/or service rooms within the middle portion of the original building. The current plan and finishes probably date from the 1904-20 renovations. The finishes are basically utilitarian with painted yellow pine woodwork, doors and floors. The woodwork was originally varnished but has been painted for a long time. Most of the rooms have brass Norfolk latches.

In addition to the usual minor plaster cracks and moderately worn floors, the north wall and adjacent ceiling of room 208 has long diagonal cracks. These cracks are usually associated with a wracking condition caused by settlements or deflections of the supporting structure. However, not only are the rooms (and structural spans) small but there are supporting walls on the first floor that would have prevented structural settlement. The cracks themselves are not displaced in or out, up or down. It is likely that the cracks developed as the wood floor joists shrank somewhat after construction relative to the supporting exterior walls.

There are areas of damaged plaster around the chimney stacks in rooms 206 and 212 due to defective chimney flashings above. One long crack in room 212 may

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reflect a crack clear through the chimney wall. The plaster in room 210 also exhibits more extensive deterioration than normal. The stairs in rooms 209 and 213 are utilitarian in character and not essential to retain for historic preservation purposes.

Rooms 215 through 225 - Service Rooms (Preservation Priority: Low). These rooms were probably used as servants bedrooms and storage rooms. They have simple yellow pine woodwork (varnished in the hallway, painted in the rooms), doors and floors with plain plaster walls. The line of the pitched roof above considerably reduces the usable space in these rooms.

All of these spaces have considerable plaster damage due to leaking roof dormer and valley flashings above and the finishes are generally in worn condition (Figure 37). The windows in this section are in substantially poorer condition than the main block with most requiring repairs at their corners and partial rebuilding of the sash.

F. Building Code Issues

Because of the age of the mansion, it does not comply with many of the requirements of the fifth edition of the State Building Code. However, the Code does not require general compliance retro-fitting; if the mansion were to be used as a one or two family house, Section 3400.2.4 simply states that replacement components (of the building enclosure or mechanical systems) must comply with current requirements. Therefore nonconforming stairs, egress dimensions, insulation values, etc. need not comply if they are not being altered.

To the extent that the federal and state accessibility requirements would affect a proposed public use, parts of the building are not readily accessible. While it does have an at-grade entrance it is not wide enough to admit a wheelchair.

Nevertheless, existing conditions which clearly create a life safety hazard should be upgraded as a matter of common sense. Such hazards would include ungrounded wiring, lack of firestopping in walls, improperly attached smoke exhaust pipes. One obvious existing hazard is the lack of guardrails around the roof of the south porch, which is accessible through a full height door at the end of the main floor service corridor.

Whether or not existing conditions need to be modified to comply with the requirements of the building code for a new use will depend on a code study made for the specific use during the programming phase for the new use. Presumably, the curator-tenant would retain an architect to prepare specifications for the restoration and renovation work; this architect should also prepare the accessibility and code-study for the proposed use.

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In general, a detailed code analysis for possible future uses is outside the scope of this report. Likewise, an analysis of zoning issues, Topsfield fire department requirements, wetland setbacks, Title 5 on-site sewage requirements and similar state and town land-use and environmental regulations are not a part of this report.

G. Conclusion and Recommendations

Although the basic shell of the house along with the heating and hot water systems are in good condition, many of the house systems are damaged or antiquated and need to be repaired or replaced. Nevertheless, the property can be rehabilitated to make it suitable for contemporary use without compromising its historic features. The following recommendations and estimates assumed that all renovation work will be in conformance with the United States Secretary of the Interior's Standards for Rehabilitation. Based on the above discussion, the following repairs and replacements are recommended:

Exterior and Structural Repairs

1. Rebuild the upper two feet of one chimney; repoint cracked joints in the other chimneys. Remove plugs and caps and repair any damaged flues.
2. Replace all valley flashing with new copper flashing; repair existing copper ridge flashing.
3. Replace 20 percent of the damaged red slate roof shingles; replace the asphalt shingled area with red slate shingles.
4. Replace the north porch asphalt shingles, tar-and-gravel roofing at the patio-like area, the south porch and the service roof and the copper sheet roofing at the dining room with elastomeric roofing membrane. Provide new flashing or repair existing flashing at the wall junction with these roofs.
5. Repair the rotted soffits and the missing porch roof boards near the front entrance, replace the missing brackets at the ballroom and the insect-damaged bargeboards at the dining room and ballroom. Remove the bees from the service wing gable overhang and repair any damage to the wood. Repair or replace any damaged roof joists at the north and south porches. Add a guardrail at the south porch roof or permanently seal off the access door.
6. Remove all overgrown, undesirable vegetation from the site immediately adjacent to the building and train intentionally planted vines onto new trellises. Identify decorative flower beds, shrubs and trees and clean and prune accordingly. Remove the remnants of dead vines and repoint open and cracked mortar joints in the stone-faced walls, especially at water-vulnerable locations below roof valleys.
7. Remove all windows, restore them offsite and rehang them. Prepare window casings and sill surfaces and repaint them; include epoxy

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- repairs, dutchmen inserts and complete sill replacement as required by the amount of damage discovered. See the Appendix for a schedule of specific window repairs. Prepare and restore exterior doors and their casements.
8. Remove the front door and plane the bottom so it will clear the threshold. Replace the kickplate with a new painted brass one mounted a little higher to clear the threshold. Remove and reglue the oak veneer on the lock rail or replace the damaged veneer with new.
 9. Replace the bronze weatherstripping on all the exterior doors with new bronze weatherstripping. Vinyl bulb weatherstripping would also be acceptable provided it is not visible when the doors are closed.
 10. Patch and restore damaged concrete and reinforcing steel at the patio-like slab; remove the terra-cotta walls in the basement walkway under the patio and replace them with cast concrete.
 11. Install seat angles on the columns and inject epoxy into the diagonal cracks at a beam in the boiler room basement.
 12. Provide miscellaneous maintenance repairs at the following locations:
 - a. Clean and paint the fire escape.
 - b. Repoint the exposed brick wall and restore the eave fascia boards.
 - c. Replace and repair damaged skirt boards at the north porch, using pressure treated lumber.
 - d. Clean and stabilize the tiled patio.
 - e. Replicate the original arbor on the east side of the north wing.

Interior Repairs

1. Woodwork
 - a. Make minor trim repairs to replace missing dentils and moldings in rooms 101 and 106.
 - b. Replace missing quartered oak panels (one wall panel and two in door), 20 decorative pegs and repair settee in room 102.
 - c. Repair and replace about 50 sq.ft. of veneered oak paneling and three lin.ft. of wood cornice in room 104.
 - d. Replace four rotted wood panels in room 111.
 - e. Replace two yellow pine doors and repair settee in rooms 201 and 205.
2. Natural Wood Finishes
 - a. Clean and rewax or oil all natural finished woodwork including windows and storm sashes in rooms 101 through 106, 109, 110, 201 through 205.
 - b. Refinish 150 sq.ft. of oak paneling in room 104 and 400 sq.ft. in other rooms.
 - c. Strip and revarnish all natural trim in the second floor service wing hallway.

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3. Painted Surfaces: prepare and repaint all plaster and all currently painted wood trim throughout the building.
4. Wood Floors
 - a. Sand and refinish all wood floors in all rooms except room 110 and the service wing.
 - b. Repair or replace 60 sq.ft. of water-damaged oak floor in room 105.
5. Concrete Floors
 - a. Remove all vinyl tile and carpet from the floors of the service wing (except for room 111); clean the concrete surfaces.
 - b. At room 111, remove the paint from the concrete and tiles; leave the tile exposed when cleaning and refinishing the concrete surface.
6. Tile and Stone Floors: Clean, wax and polish the tile and hone and polish the stone hearth in room 110.
7. Plaster
 - a. Replace areas of major water damage; assume 400 sq.ft. at the first floor and 600 sq.ft. at the second floor.
 - b. Patch cracked plaster throughout the building; assume 1,000 lin.ft. of crack repair.
 - c. Patch 15 sq.ft. of Caen stone plaster in room 106A.
8. Windows
 - a. Provide new wood interior oak or white pine sash and screens for 25 percent of the windows.
 - b. Repair damaged window hardware and replace missing components. About 35 percent of the hardware is missing.
9. Lighting and Electrical
 - a. Provide new wall sconces throughout the building at locations of existing fixtures; refurbish two existing chandeliers.
 - b. Remove inappropriate fluorescent ceiling fixtures in the principal rooms (101, 103, 104, 109 and 110).
 - c. Retain and rewire old switch plates in concealed boxes and where possible on the walls.
10. Specialties
 - a. Repair six cracked leaded glass lites and provide external wood sash in room 110; reglaze leaded glass and install 12 new sash in room 109; repair lead glass in room 106A.
 - b. Strip, polish and re-lacquer the brass radiator grills at the window seats in rooms 101, 103, 201, 202 and 203.
11. Hardware
 - a. Retain and repair the wrought iron latches in room 102.
 - b. Retain all brass Norfolk latches in room 201 through 214 and supplement missing or damaged latches with similar ones salvaged from the service wing.
 - c. Replace missing door hardware in rooms 106, 109 and 110 with appropriate stock reproductions.

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12. Bathrooms: Retain and repair original tile walls, floors and marble fixtures; use new stock reproduction faucets in two to four existing bathrooms.

Pumphouse

1. Remove and rebuild the wood walls, roof, attic and first floor. Each level is about 200 sq.ft.
2. Lower the grade at least one foot at the back of the building.

H. Renovation Costs

Based on the above recommendations, costs were estimated for renovating the Bradley Palmer mansion. These are shown in the Appendix estimating forms. Costs for testing and any removal or neutralizing of lead paint, asbestos and any hazardous materials or contaminated soils are not included in these estimates. However, it should be assumed that these conditions exist until tests by outside, independent testing agencies prove otherwise.

Furthermore, the cost estimates are intended for planning and budgeting purposes only and are not intended to be used as estimates of probable construction costs. The actual costs of construction are dependent on market conditions at the time of construction and may differ considerably from these August, 1995 estimates. Furthermore, actual construction costs may vary considerably depending on the use proposed by the potential curator-tenant; that is, the number of appliances and fixtures may depend on code requirements for a specific use and the quality of finishes may depend on the tastes of the curator-tenant.

J. General Assumptions and Limiting Conditions

This inspection is not a certification of the soundness of the building, a survey or a legal document (for instance, a title examination), although assumptions regarding these and other matters are made.

1. Ocmulgee Associates, Inc. will not be required to give testimony or appear in court because of having made this report, with reference to the property in question, unless arrangements have been previously been made.
2. Any legal description used in this report is assumed to be correct.
3. No survey of the property has been made by Ocmulgee Associates, Inc. and no responsibility is assumed in connection with such matters.
4. No responsibility is assumed for matters of a legal nature affecting title to the property, nor is an opinion of title rendered. The title is assumed to be good and merchantable.

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5. Information furnished by others is assumed to be true, correct and reliable.
6. All mortgages, liens, encumbrances, leases and servitude have been disregarded unless so specified within the report. The property is reviewed as though under responsible ownership and competent management.
7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil or structure. No responsibility is assumed for such conditions or for any engineering or testing which may be required to discover such factors.
8. It is assumed that there is full compliance with all federal, state and local environmental regulations and laws unless noncompliance has been stated, defined and considered in this report.
9. It is assumed that utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass.

I. Bibliography

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The Massachusetts State Building Code, Fifth Edition, Boston, Massachusetts: Mass. Secretary of State.

Myers, John H. "Preservation Brief No. 9, The Repair of Historic Wooden Windows". Washington, D.C.: National Park Service, Preservation Assistance Division, 1981.

"The Secretary of the Interior's Standards and Illustrated Guidelines for Rehabilitating Historic Buildings". Washington, D.C.: National Park Service, Cultural Resources, Preservation Assistance Division, 1992.

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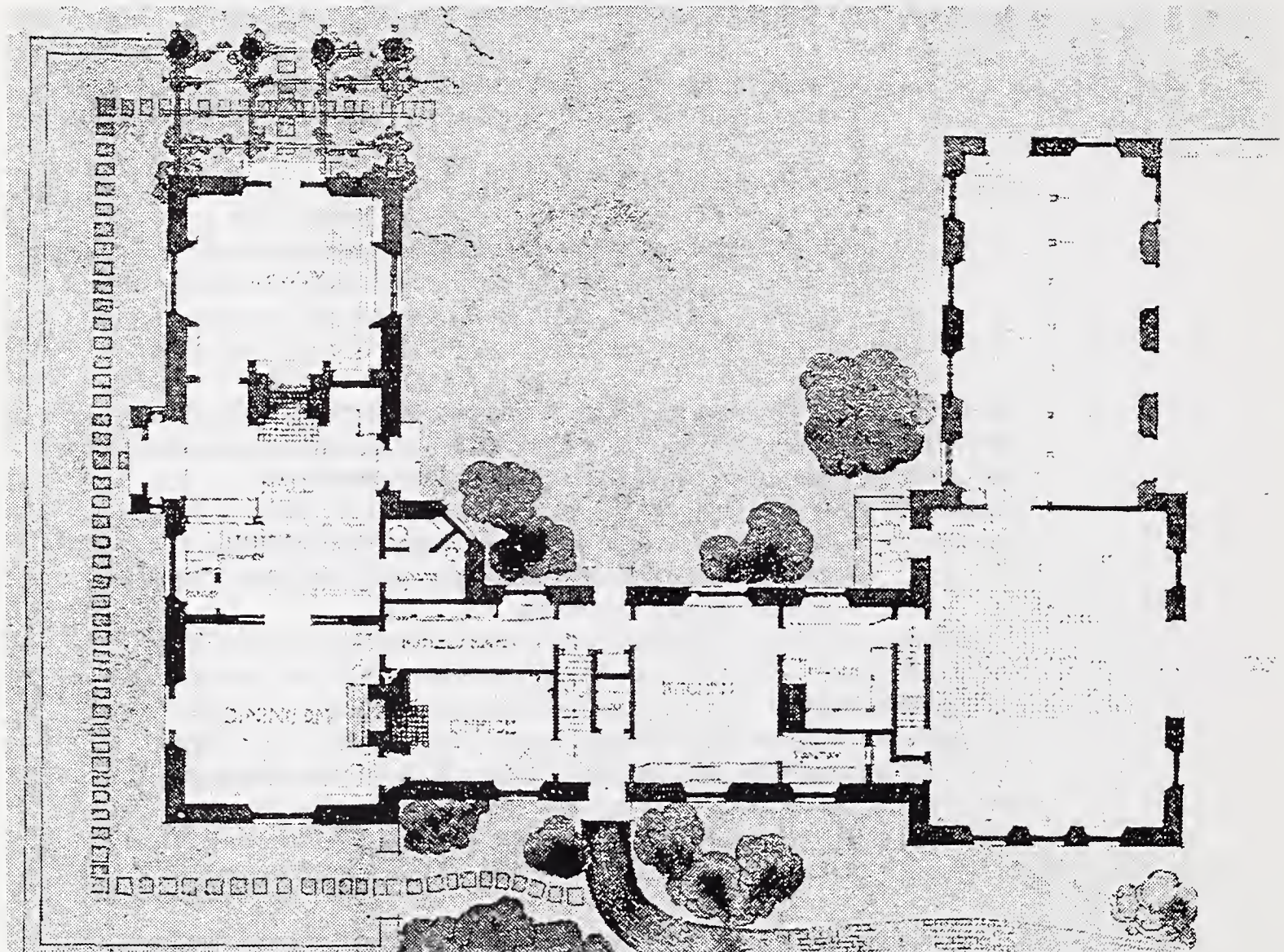


Figure 1A. Plan of First Floor from The Architectural Review, January, 1904.



Figure 1B. East Side of House as Originally Built.

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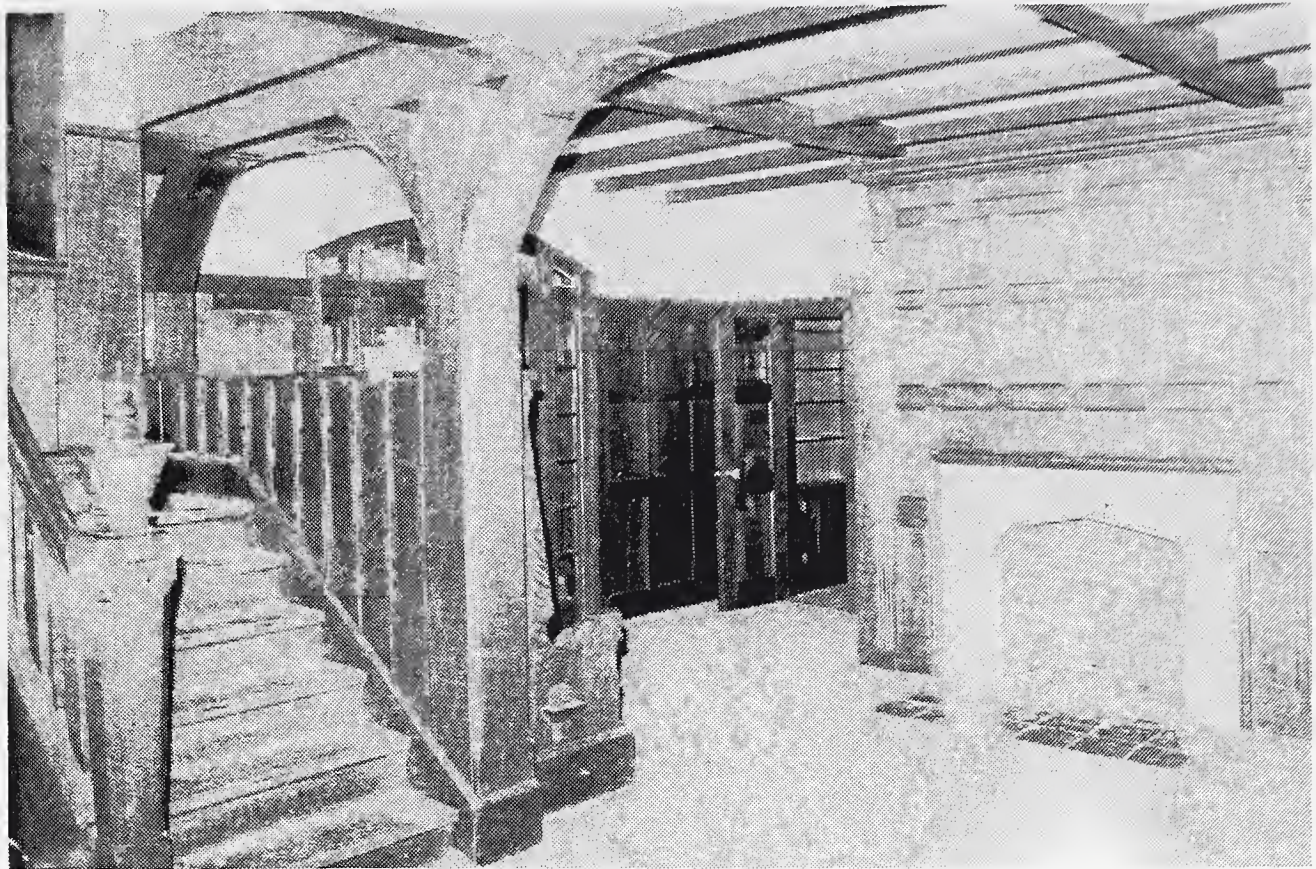


Figure 2. Entrance Hall, Room 102.

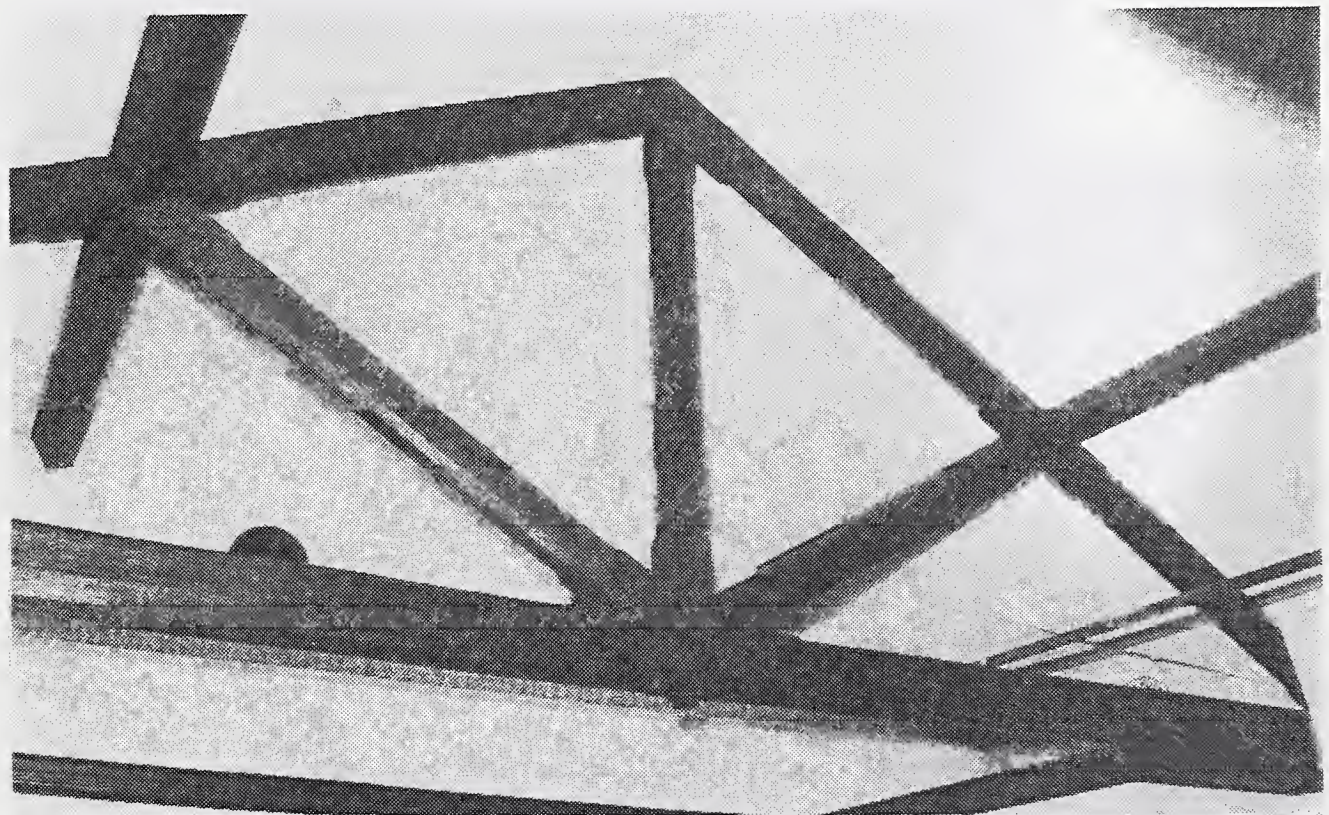


Figure 3. North Wing Roof Trusses. Note Access Holes for Bedbolt Nuts About One Foot in from Ends of Kingpost.

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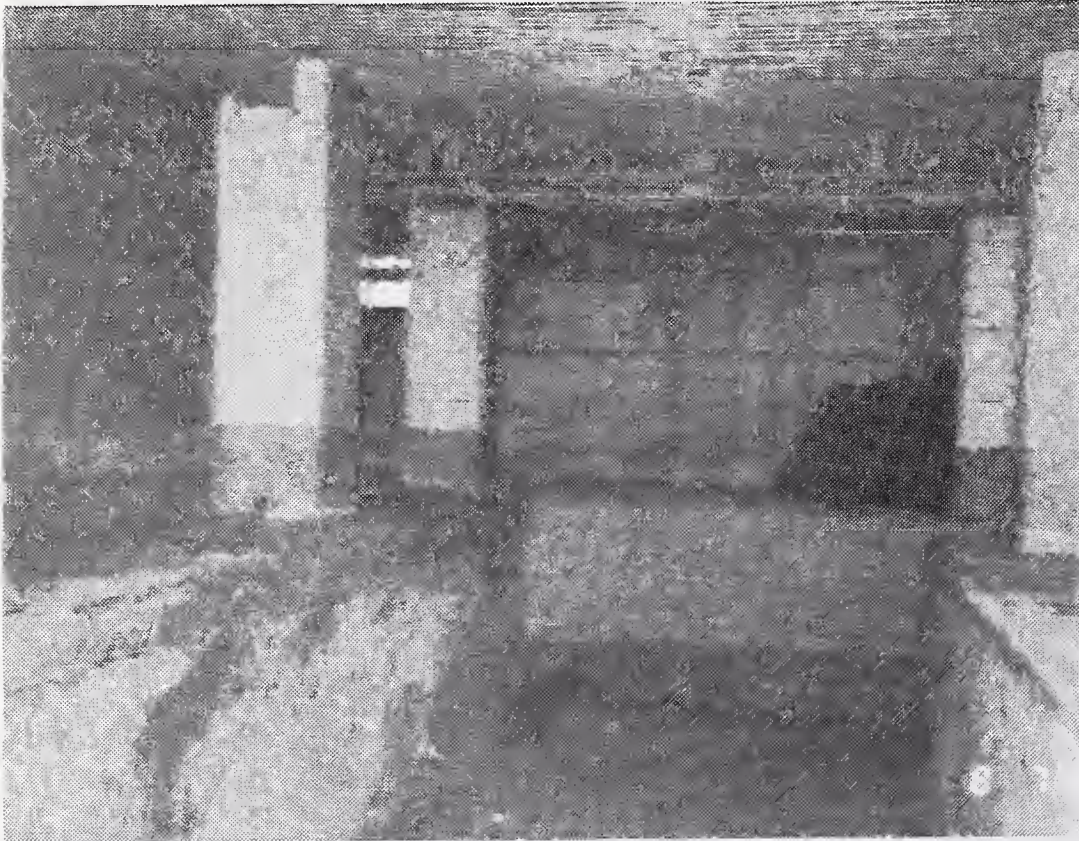


Figure 4. Room B06 Under Patio.
Note Deteriorated Low Wall On Left and Damaged Ceiling.



Figure 5. Split Water Service.

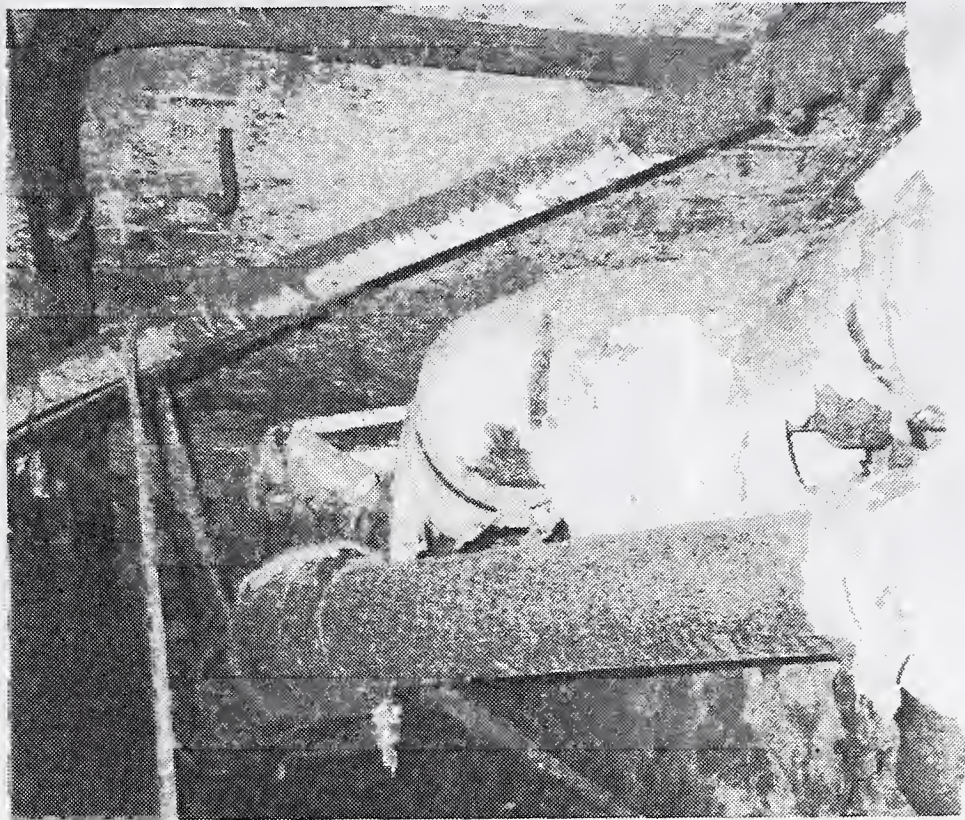


Figure 6. Torn Insulation and Uninsulated Pipe.

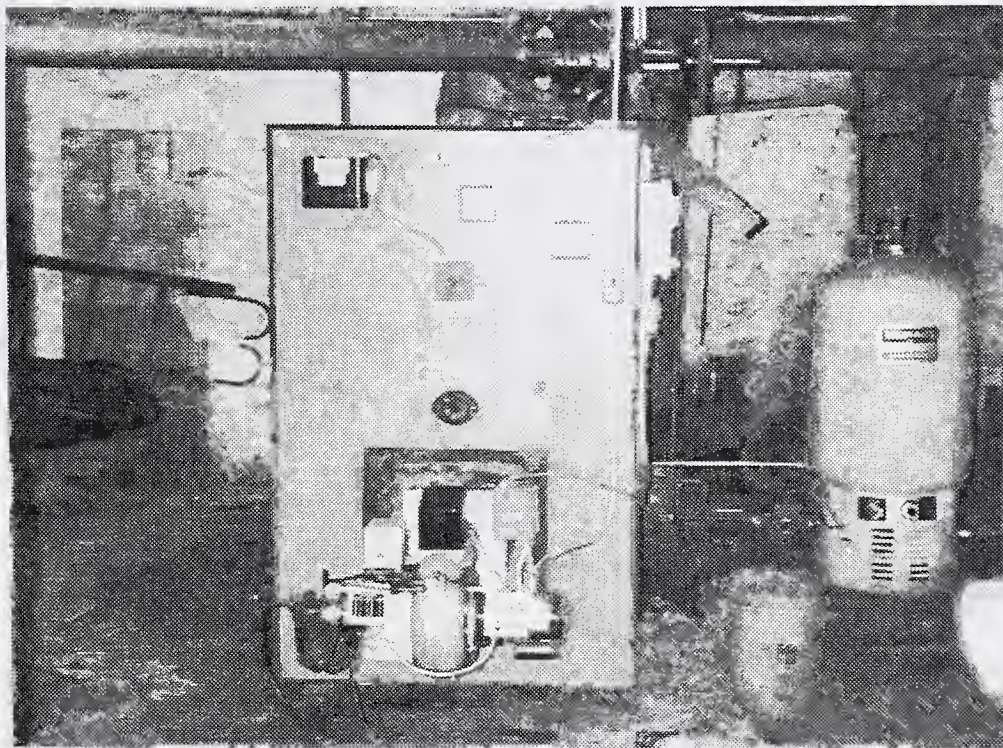
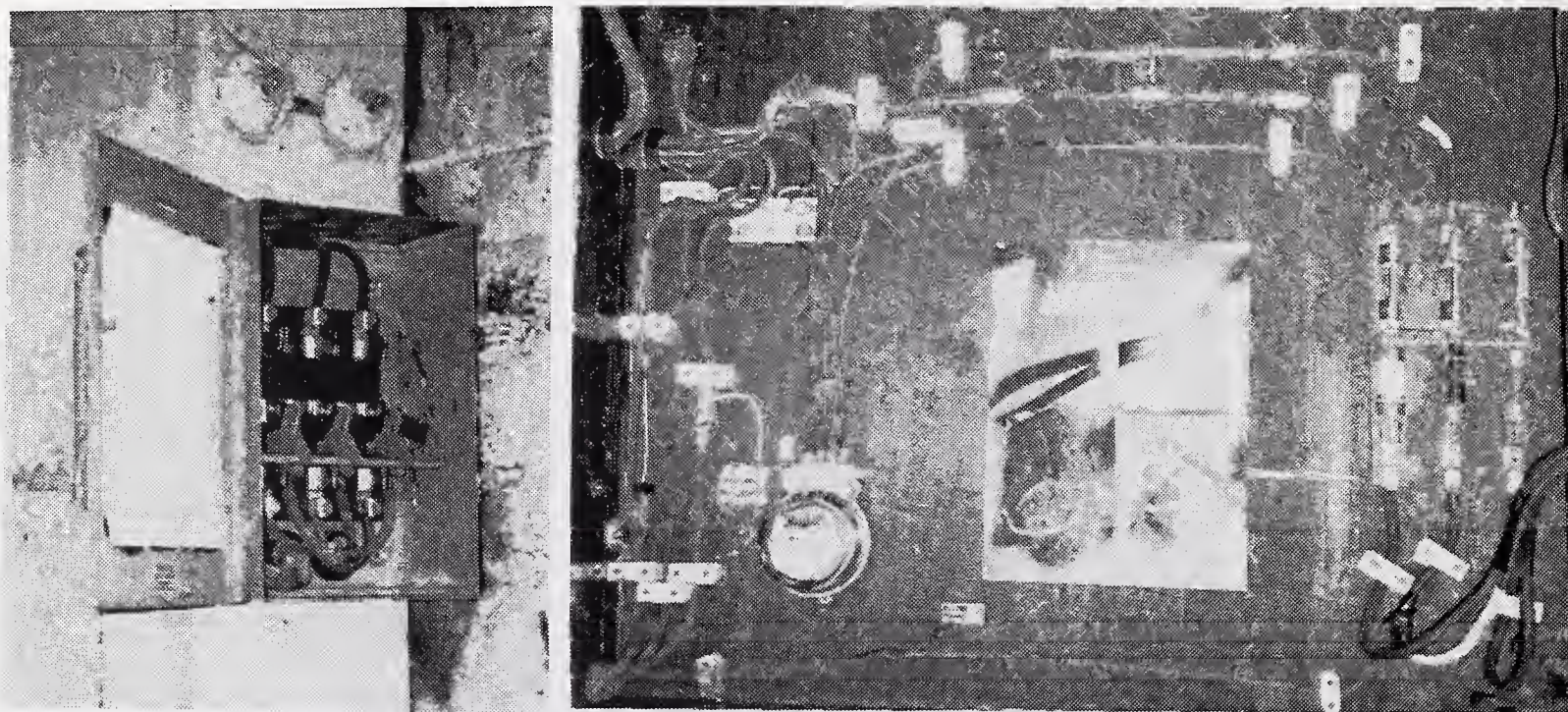


Figure 7. Hot Water Heating System.

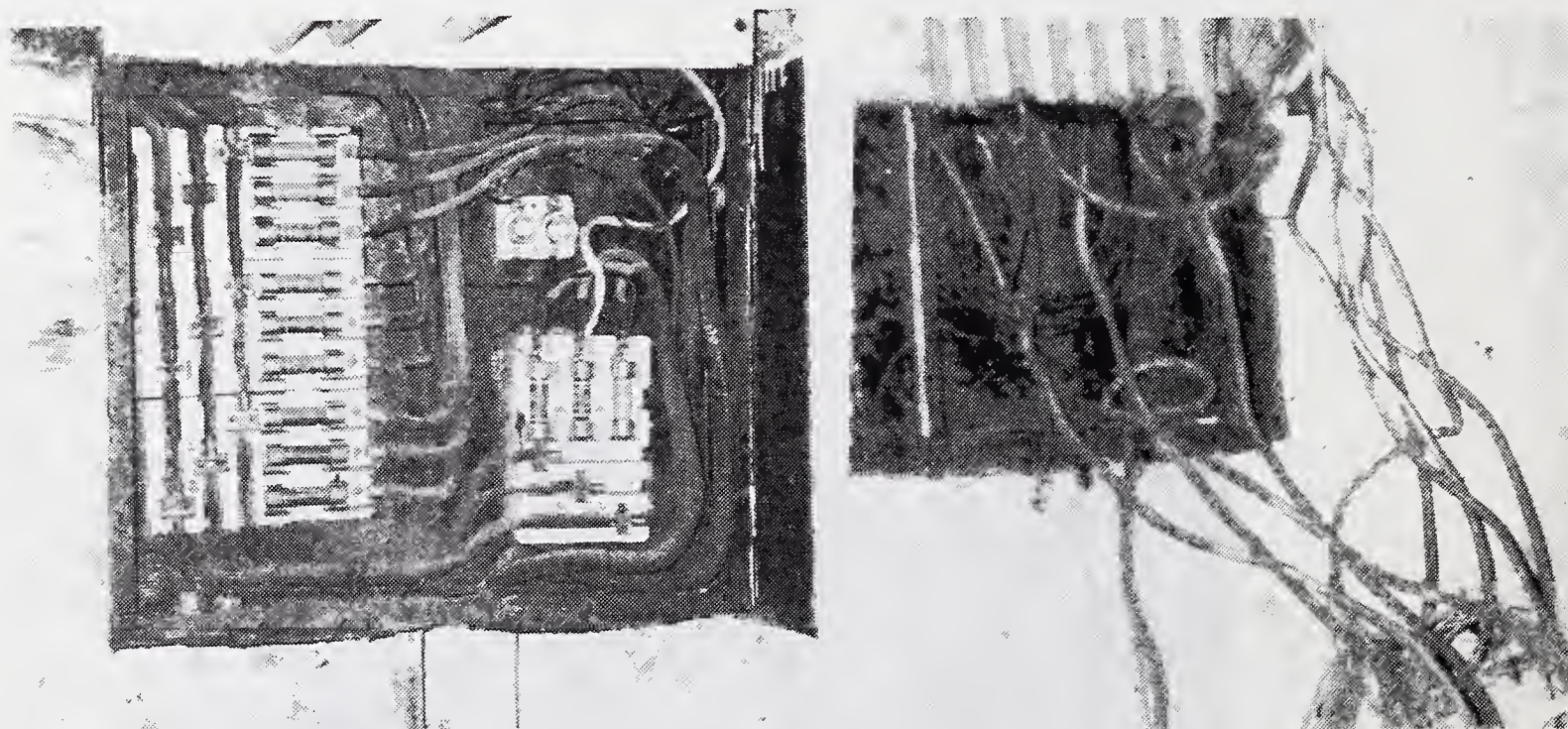
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Figures 8A and 8B. Antiquated Circuit Panels.



Figures 8C and 8D. Cartridge Type Fuses and Hanging Wires.

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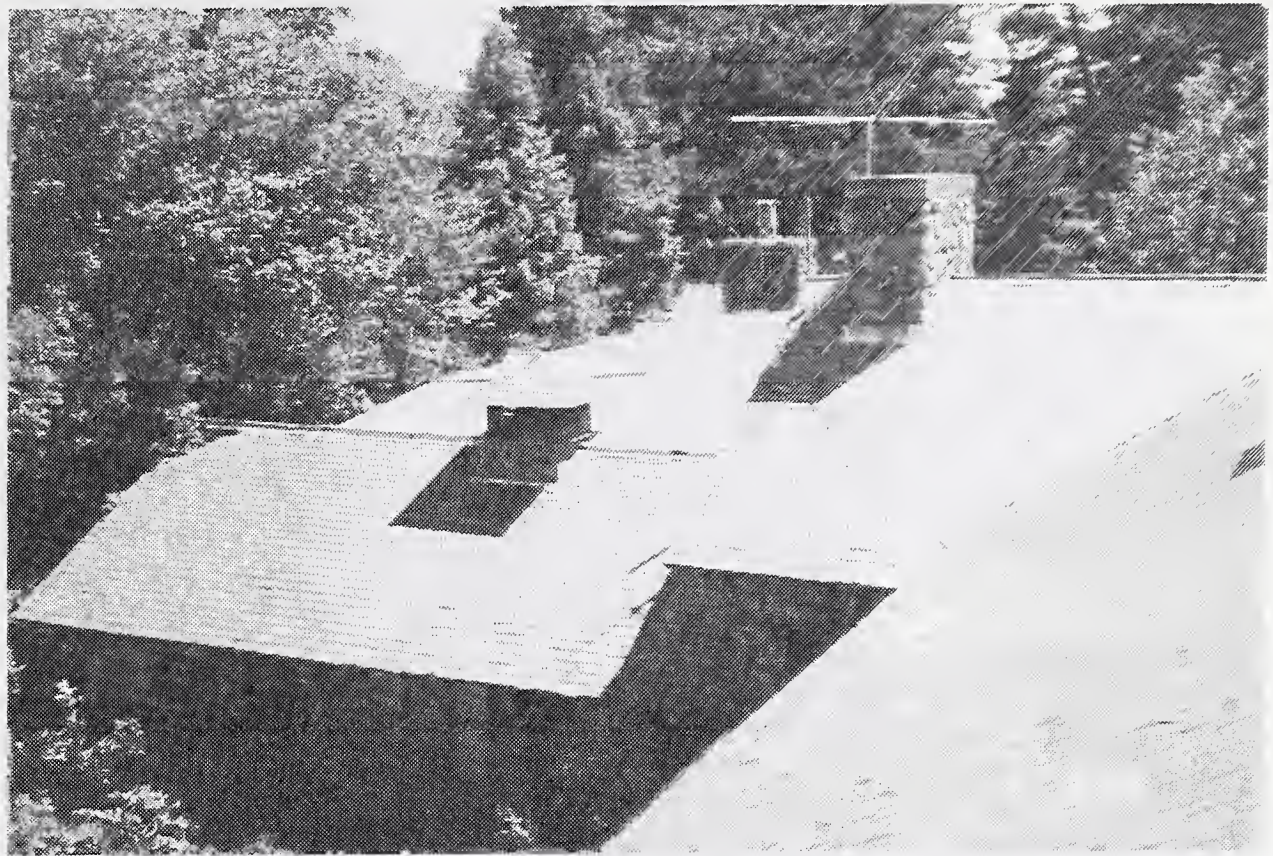


Figure 9. Red Slate Sloping Roofs; Light Colored Flat Seam Copper Roof in Center and Tar-and-Gravel at Back Chimney.

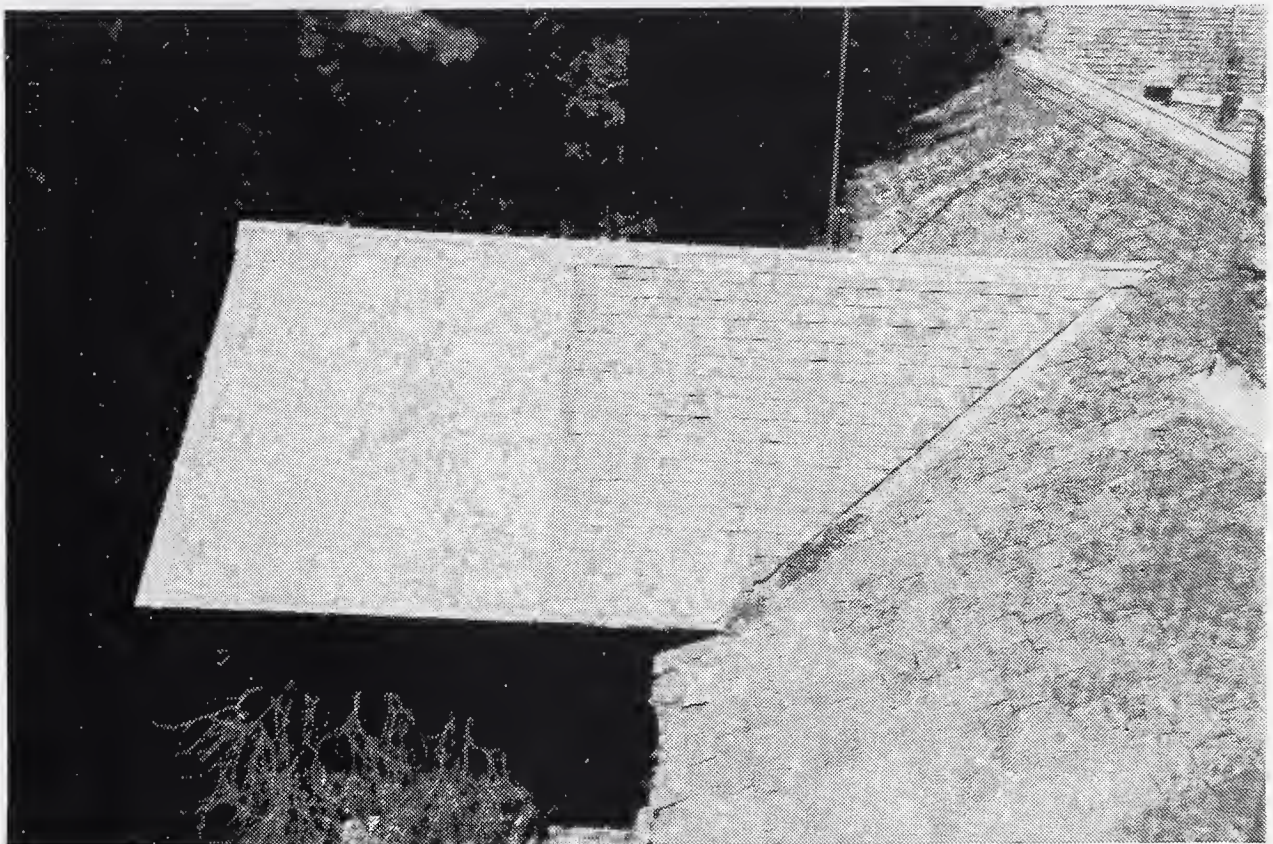


Figure 10. Asphalt Shingles on Left. Note Chipped and Cracked Slate.

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Figure 11. Past Repairs and Existing Condition of Slate Roof

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Figure 12. Damage Valley Flashing. Note Hole Half Way Down the Flashing.



Figure 13. Decorative Bracket and Rafter Tail. Note Missing Soffit Boards.



Figure 14. General Condition of Stone-Work and Windows.



Figure 15. General Condition of Window Sills and Glazing Compound.



Figure 16. Broken Corner at Ballroom Sash.

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Figure 17. Twisted Leaded Glass Panel in Ballroom Sash.

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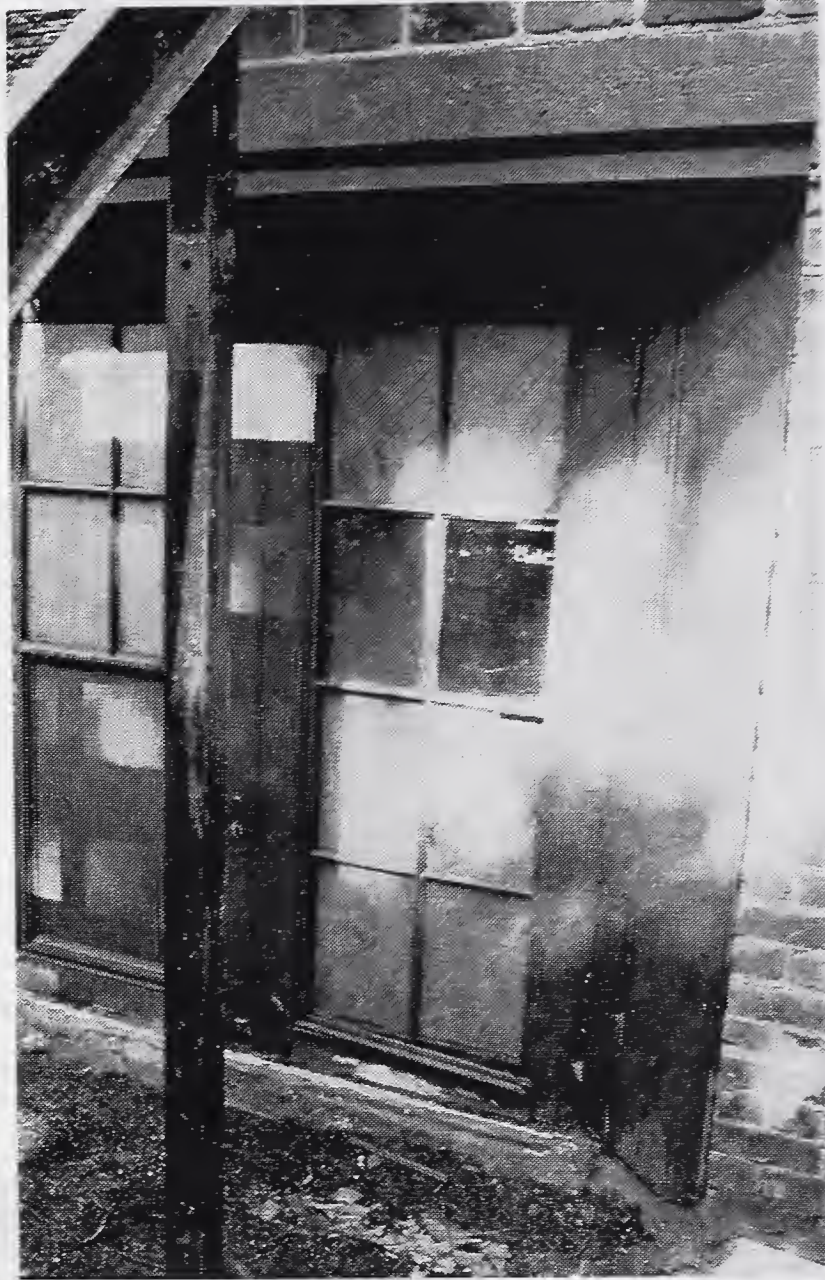


Figure 18. Damaged Door and Flashing at Ballroom Patio.



Figure 19. Overgrown but Relatively Undamaged Clay-Tile Patio.

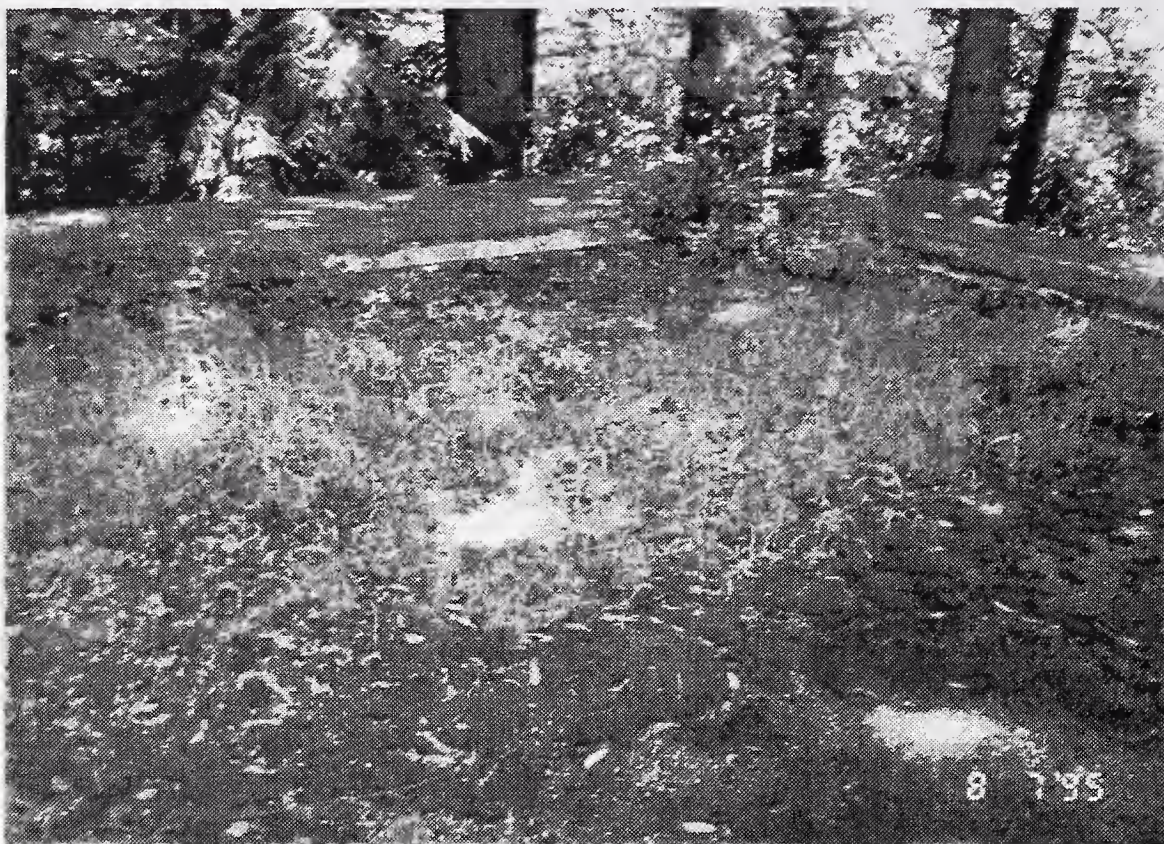


Figure 20. Overgrown and Heavily Damaged Tar-and-Gravel Covered Ballroom Patio.

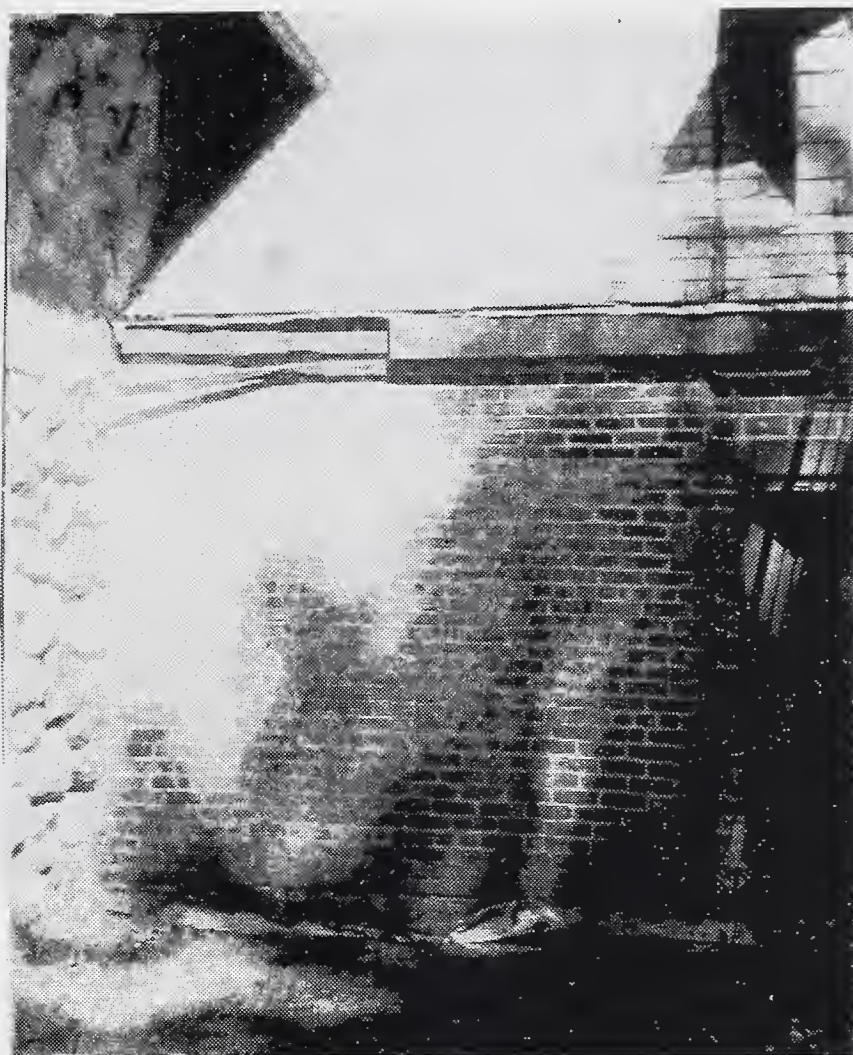


Figure 21. Brick Wall at Ballroom Patio.
Note Defective Fascia Boards and Flashing at Base of Wall.



Figure 22. Overgrown Vegetation at East Courtyard.

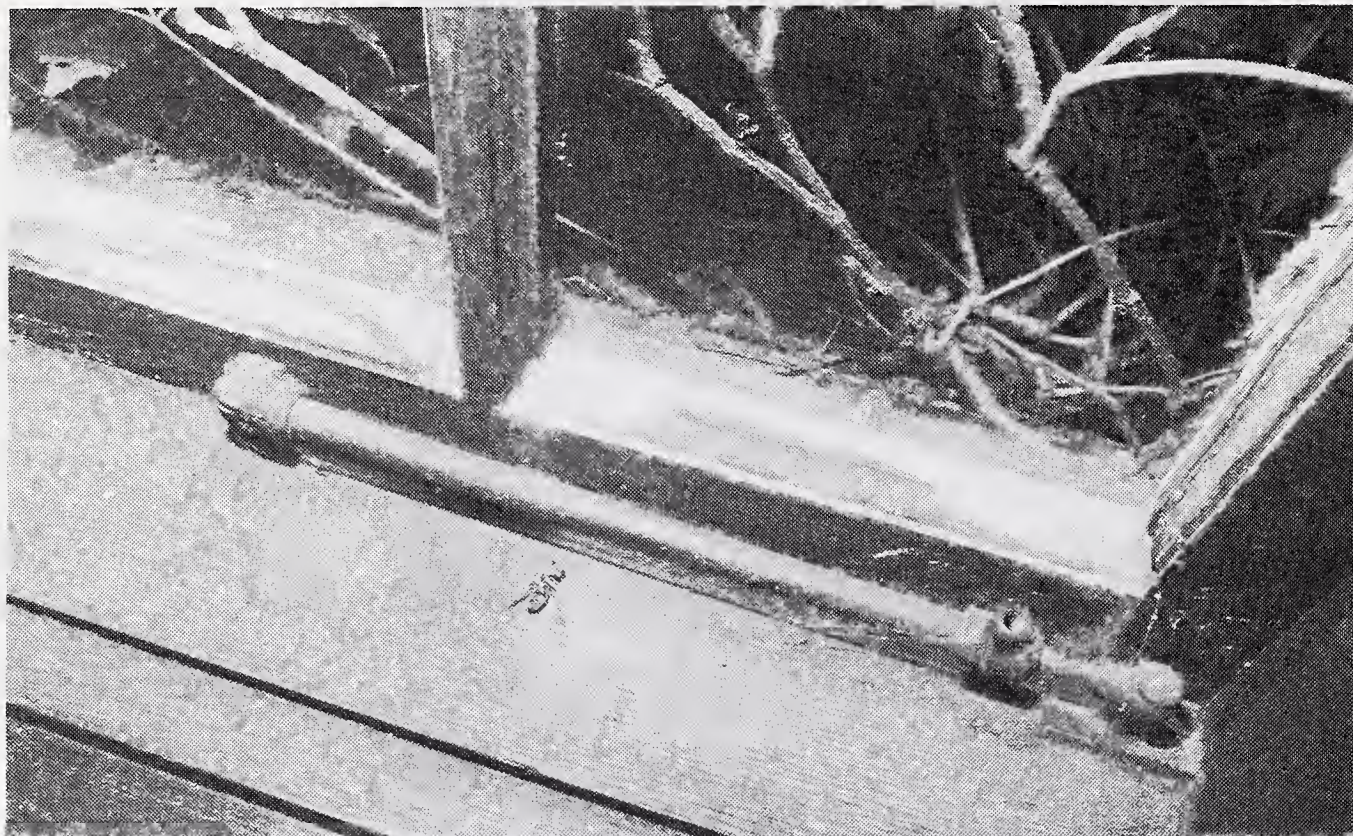


Figure 23. Typical Window Swing Hardware with Missing Clamp.

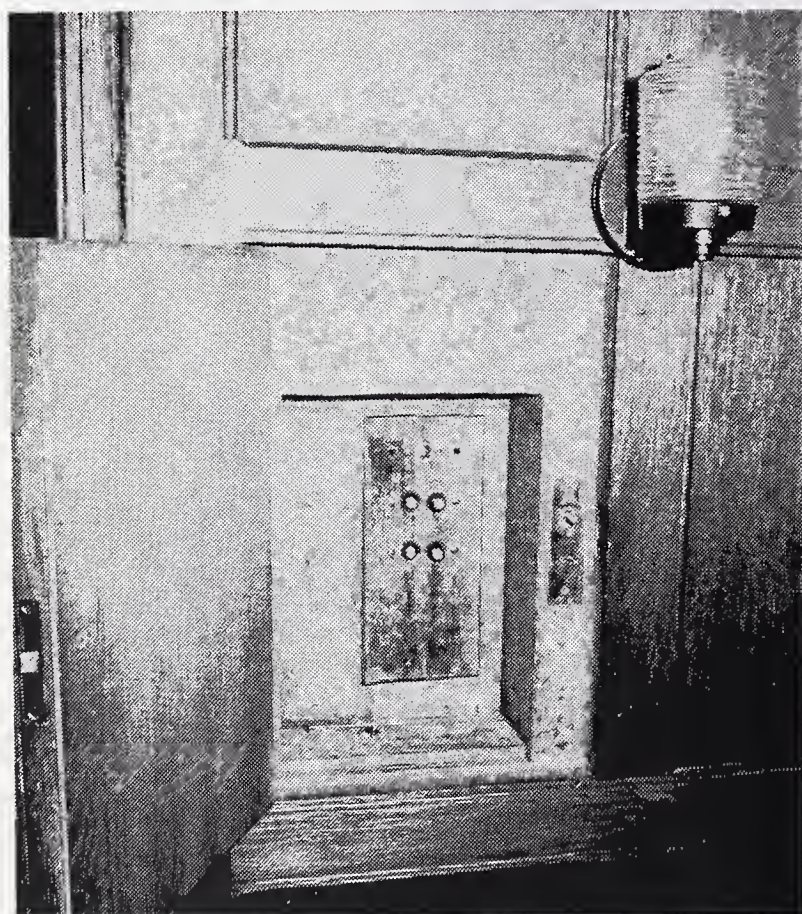


Figure 24. Button-Type Light Switches in Concealed Panel and Modern Light Sconce.



Figure 25. Missing Dentils in Cornice.

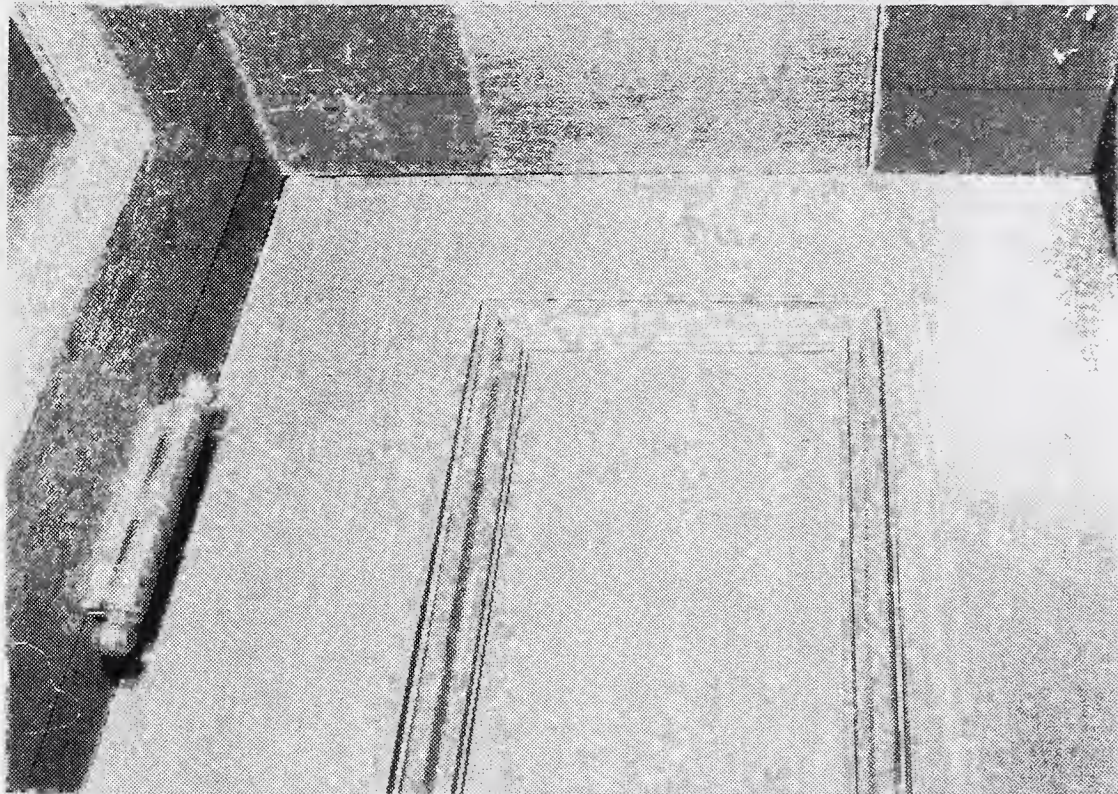


Figure 26. Waterstained Window Jamb.

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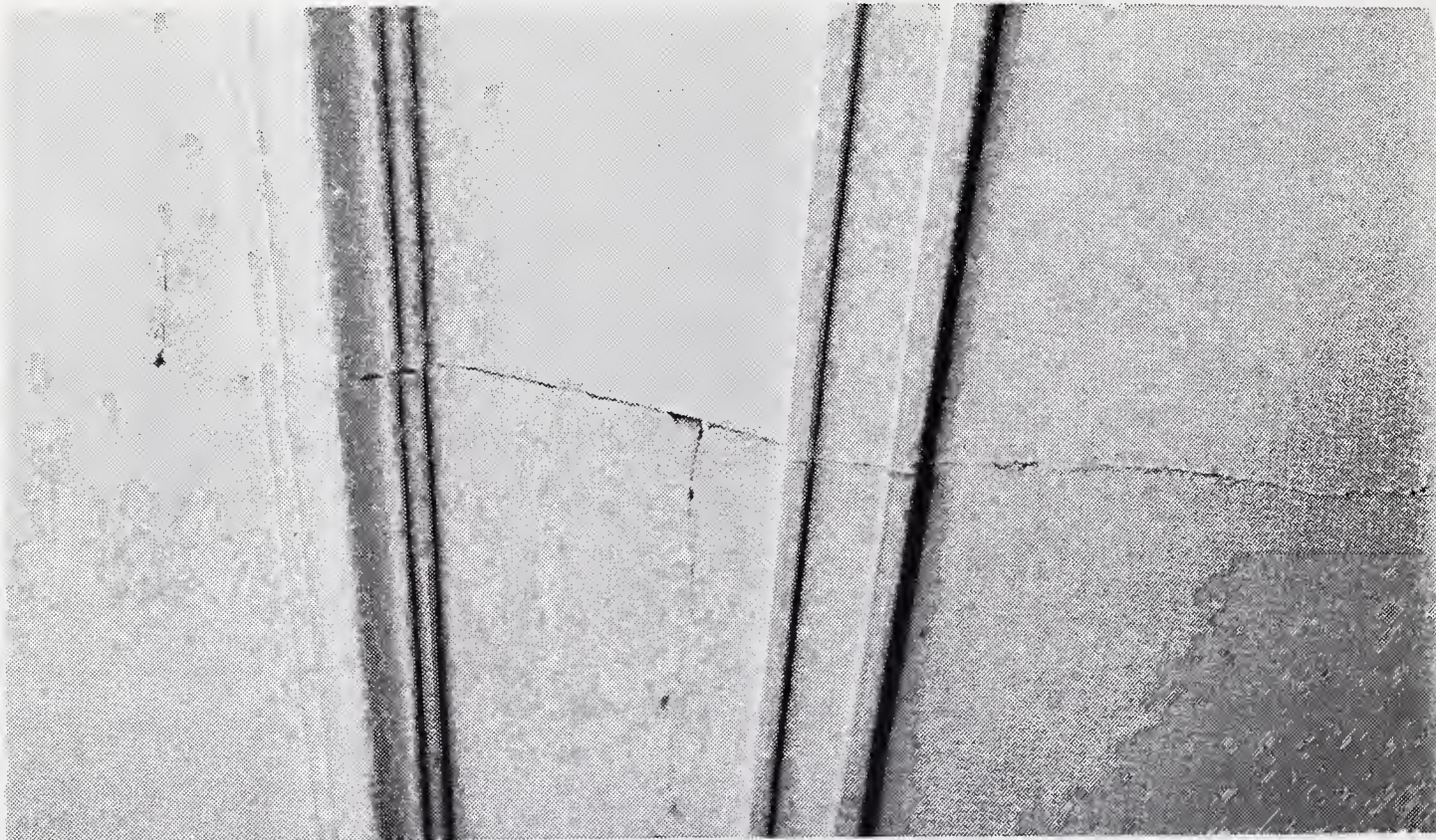


Figure 27. Typical Ceiling Cracks.

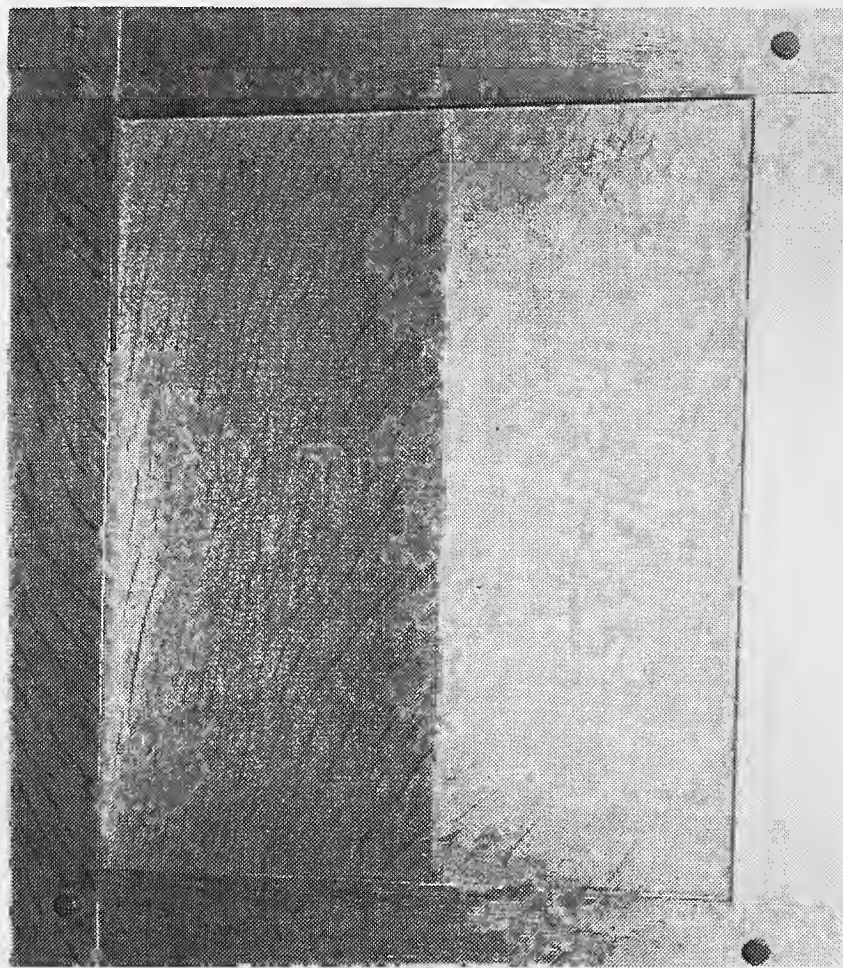


Figure 28. Quartered Oak Panel with Split at Glue Line. Note Unusual Oak Pins.

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Bradley Palmer State Park, Topsfield, Massachusetts

August 1995

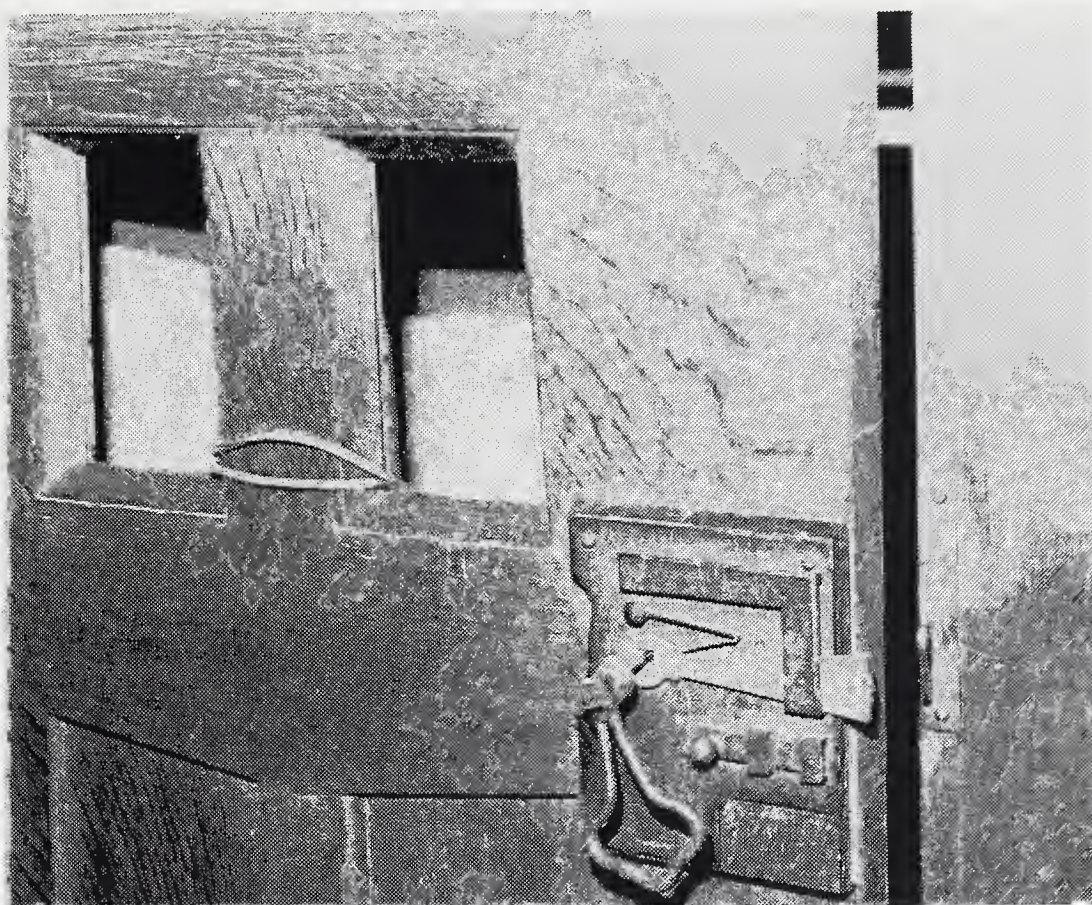


Figure 29. Closet Door with Damaged Wrought Iron Hardware and Missing Stained Glass Panels.



Figure 30. Severely Water Damaged Oak Veneer and Floor.

**HISTORIC CURATORSHIP PROGRAM
BRADLEY PALMER MANSION
BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 31. Typical Missing Wood Trim in Room 106.

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BRADLEY PALMER MANSION
BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 32. Water Damage to Caen Stone Plaster in Room 106A.

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BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 33. Plaster Damage in Room 110 Due to Defective Roof Flashing and Open Masonry Joints.

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Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 34A. Stained Glass Panel, Interior Side, Room 106A.

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August 1995

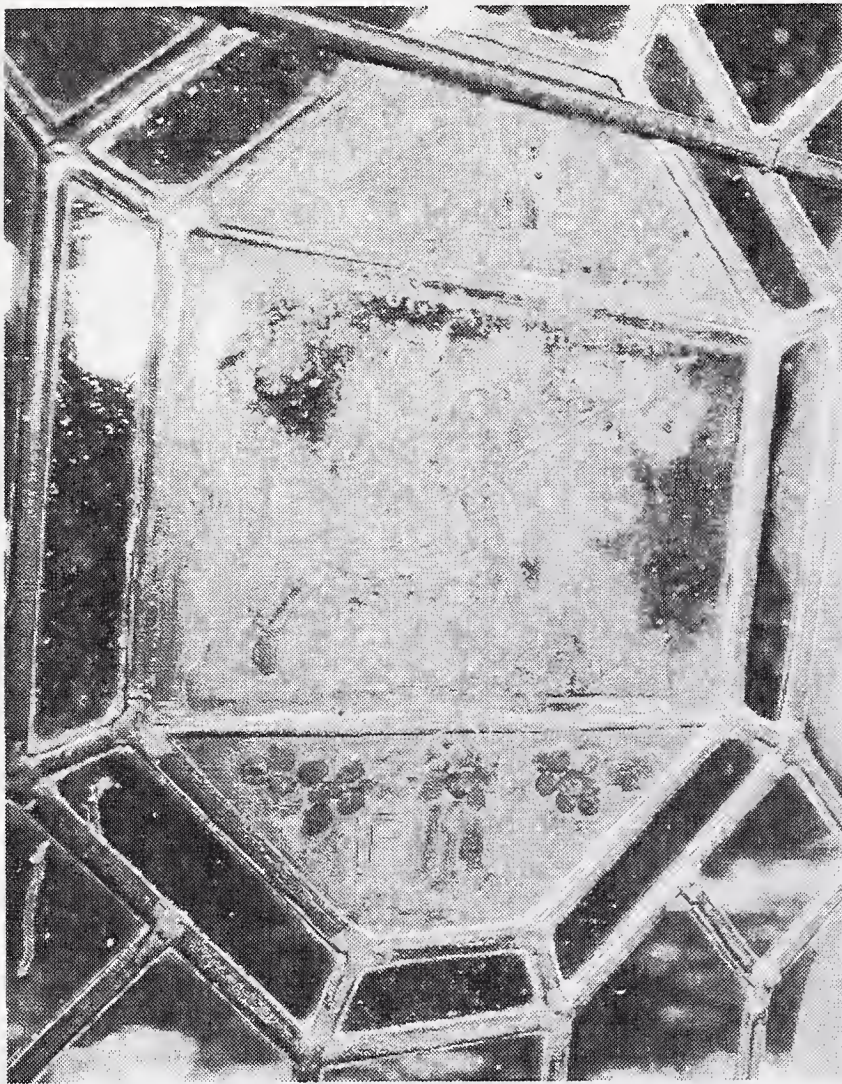


Figure 34B. Stained Glass Panel, Exterior Side Showing Imitation Patina. Note that Portions of the Patina have been Removed by Inappropriate Aggressive Cleaning.



Figure 35. Dumbwaiter and Ice-Box in Basement.

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BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 36. Original Sink and Tiles with Water Damage Above at Room 204.



Figure 37. Plaster Damage from Defective Dormer Flashing.
Typical Wood Trim in Room 221.

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BRADLEY PALMER MANSION
BUILDING SURVEY**

Bradley Palmer State Park, Topsfield, Massachusetts

August 1995



Figure 38. Pumphouse (Photo by Jon Crispin).

APPENDIX

Cost Estimate Sheets	14 Sheets
Mansion Window Survey and Schedule	5 Sheets
Floor Plans	4 Sheets

COST ESTIMATE				
BRADLEY PALMER STATE PARK - MANSION				
August 1995				
Prepared: RAC				
Checked: WCK				
SUMMARY				
DIVISION				TOTAL
1	GENERAL DATA			211,102
2	SITEWORK			140,400
3	CONCRETE			4,522
4	MASONRY			22,584
6	WOOD & PLASTICS			44,888
7	THERMAL & MOIST PROT			84,527
8	DOORS & WINDOWS			100,820
9	FINISHES			136,172
10	SPECIALTIES			4,300
11	EQUIPMENT			26,175
15	MECHANICAL			142,020
16	ELECTRICAL			138,000
TOTAL				1,045,510
10% CONTINGENCY				104,551
GRAND TOTAL				1,150,061

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
DIVISION 6 WOOD AND PLASTIC				
REPAIR SOFFITS		LS		1,800
REPLACE BARGEBOARDS		LS		4,300
REPLACE BRACKETS		LS		2,000
ROOF OVERHANG REPAIRS		LS		4,800
REPAIR/REPLACE JOISTS		LS		600
REPLACE PORCH SKIRT BDS	98	LF	6	588
REMOVE BEES, REPAIR WD		LS		1,250
REPLACE DENTILS & MLDGS ROOMS 101 & 106		LS		950
REPLACE PANELS ETC ROOM 102		LS		1,150
REPLACE PANELS ETC ROOM 104		LS		3,500
REPLACE PANELS ETC ROOM 111		LS		900
REPLACE DRS, FIX SETTEES ROOMS 201 & 205		LS		2,600
REPAIR WOOD FLOOR	60	SF	7.5	450
CUT & PATCH FOR MEP		LS		20,000
TOTAL DIVISION 6				44,888

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
<u>DIVISION 9 FINISHES</u>				
REPL DAMAGED PLASTER	120	SY	75	9,000
PATCH CRACKED PLASTER	1000	LF	1.5	1,500
PATCH SPECIAL PLASTER	2	SY	100	200
REPAIR TILE BATHS		LS		2,250
REPAIR MARBLE		LS		5,000
CLEAN & POLISH STONE	40	SF	5	200
REFINISH TILE RM 111	200	SF	5	1,000
POWER WASH PATIO		LS		350
CARPET ON CONC	470	SY	25	11,750
VAT ON CONC	235	SY	20	4,700
REMOVE PAINT FROM WIND FRAMES, SILLS & SASH				NIC
PAINT WINDOW FR & SILLS	87	EA	25	2,175
PAINT WINDOW SASH - EXT	159	EA	85	13,515
VARNISH WINDOW SASH - INT	159	EA	60	9,540
REFINISH EXT DOORS	10	EA	100	1,000
CLEAN & PAINT FIRE ESCAPE	1	LS		1,200
REFINISH ROOF OVERHANG		LS		7,500
CLEAN & OIL INT WOOD	3916	SF	0.5	1,958
REFINISH OAK PANELING	550	SF	1	550
PAGE TOTAL				73,388

[illegible]

Wood Window Resource

HISTORIC REPLICA

300 Oak Street, #155, Pembroke, MA 02359
(617) 829-9616 fax (617) 829-8855

August 24, 1995

Bradley Palmer State Park
Topsfield, Ma

Mansion Window Survey

Window survey conducted on August 7, 1995 and August 11, 1995 involved 87 window openings. Window openings varied from single sash assemblies to 3 wide sash assemblies. Window types found Casement out swing, casement inswing, casement fixed, double hung and awnings. All of these units appear to have been original installation.

Windows consist of pine frames and sills. Exterior frames are generally in very good condition, 13ea need moderate restoration, 4ea require significant restoration, none were found to require extensive restoration or replacement. Sills are in good condition overall, 15ea moderate restoration, 13ea significant restoration and 3 will require replacement. The extent of moderate or significant restoration involves a thorough cleaning of paint buildup and wood decay. The areas affected are to receive an application of wood hardener and sealer and a finish application of epoxy paste to fill and shape to an original profile.

There are 159 window sash in fair to poor condition. Sash are constructed with mortise and tenon joinery with wood pins at corners. Sash are typically cut 2 wide x 4 or 5 high divide lite wood muntins. Sash are glazed from the exterior with putty compound. 90% of the sash glazing compound has failed. The lower portion of the stile and rail has opened to the weather and joinery pins have worked free. A significant amount of moisture has wicked into the joint openings. Restoration beyond deglazing and reglazing will be required on 38 sash as moderate restoration, 22 sash will require significant restoration and 8 sash will require replacement. Several sash are glazed with leaded glass. These units will require complete restoration or replacement.

The interior window trim is natural oak with the sash and exposed frame components stained to match. There are a number of interior panels with screens or glass. These interior panels occur at random locations and are mostly incomplete to the overall opening assembly. It appears that these panels have contributed to much of the interior moisture deterioration and stains at bottom sill rails and stools. Since these panels do not provide a sealed window assembly, condensation has developed and is inevitably trapped between the interior panel and the primary window.

Window hardware appears to be in serviceable condition. Much of the hardware and hinging has been painted over several times. Since most of the operator mechanisms are of the push rod type, refurbishing should be simple. All window hardware should be stripped and lubricated for reuse.

In conclusion our survey shows the frame and sill members are in a condition to easily accept epoxy work for restoration, with few exceptions. All window sash are in need of reglazing and many require work to refasten joinery, with others in need of replacement.

Should the interior window panels be refurbished or replaced, specific consideration must address condensation of an unsealed assembly.

The cost for window repairs to refurbish frames, sills and sash for a 2 wide sash opening is approximately \$ 575.00. To replace a sash cut 2 wide x 5 high, matching profiles is approximately \$390.00 each. The above estimates do not include logistical issues for where work will occur, temporary protective, paint removal and interfacing schedules.

End of report

Sincerely

Peter F. McCarthy CSI

Wood Window Resource

HISTORIC REPLICA

300 Oak Street, #155 Pembroke, MA 02359
(617) 829-9616 fax (617) 829-8855

BRADLEY PALMER STATE PARK

24-Aug-95

Topsfield, MA.

Survey 8/07/95

WINDOW SCHEDULE

BASEMENT FLOOR

SCHED136

No	Type	Sash Openi	CUT	Mull	Sash	Frame	Sill	Comments
B1	Case	2W	2w3h	N	2	1	1	
B2	Case	1W	2w2h	N	2	1	1	Sash drilled full of holes
B3	Case	1W	3w3h	Y	1	1	1	
B4	DH	1W	4w	N	1	1	1	Cottage Style 4w2h/4w3h
B5	DH	1W	4w	N	1	1	1	Cottage Style 4w2h/4w3h
B6	DH	1W	2w4h	N	1	1	1	
B7	DH	1W	2w4h	N	1	1	1	
B8	DH	1W	2w4h	N	1	1	1	equal sash
B9	Case	2W	2w4h	Y	1	1	1	
B10	Case	2W	2w4h	Y	1	1	1	
B11	Case	2W	2w3h	Y	1	1	1	door in opening w/ window
B12	Awn	1W	3w1h	N	1	1	1	
B13	Case	1W	4lt	N	2	1	2	

FIRST FLOOR

SCHED136

No	Type	Sash Size	CUT	Mull	Sash	Frame	Sill	Comments
101	Case	3W	2w5h	Y	1	1	1	bored thru sash low right
102	Case	2W	2w5h	Y	2	1	1	Joinery opening, bottom stile and rail
103	Case	1W-F	SG	N	1	1	1	Arch top, leaded stain glass
104	Case	1W-F	SG	N	1	1	2	Arch top, leaded stain glass
105	Case	2W	2w4h	Y	2	2	1	Joinery opening, bottom stile and rail
106	Case	1W	4lt	N	1	1	1	
107	Case	2W	SG	N	4	1	1	Subs decay on both sash lower stile and rail
108	Case	2W	SG	N	4	1	1	Subs decay on both sash lower stile and rail
109	Case	2W	SG	N	4	1	1	Subs decay on both upper and sash lower stile and rail
110	Case	2W	SG	N	4	1	1	Subs decay on both upper and sash lower stile and rail
111	RT	4W + Fr Dr	2w4h	Y	2	2	2	Exterior cover cant determine config or condit.
112	Case	2W	SG	N	4	1	2	Right sash decay
113	Case	3W	2w5h	Y	3	1	1	Center sash bad
114	Case	3W	2w5h	Y	1	1	1	
115	door							
116	Case	3W	2w5h	Y	1	1	1	
117	Case	3W	2w5h	Y	1	1	1	
118	Case	3W	2w5h	Y	1	1	2	
119	Case	2W	2w4h	Y	2	1	1	Left sash stile and rail fissured
120	Case	2W	2w5h	Y	2	1	1	Left sash stile and rail fissured
121	Case	2W	2w5h	Y	1	1	1	

122	Case	2W	2w4h	Y	1	1	1	
123	Case	2W	2w4h	Y	1	1	1	
124	Case	1W - Fixed	SG	N	1	1	1	Arched top with DH sill profile
125	Case	1W - Fixed	SG	N	1	1	1	Arched top with DH sill profile
126	Case	5W	SG	Y	1	1	1	Misc panels part cover opening
127	Case	1W - Fixed	SG	N	1	1	1	Arched top with DH sill profile
128	Case	2W	2w4h	Y	3	2	3	Badly fissured, joinery sash failure at bottom of window
129	Case	3W - PW	5h	Y	3	2	4	Badly fissured, joinery sash failure at bottom of window
130	Case	2W	2w4h	Y	3	2	3	Badly fissured, joinery sash failure at bottom of window
131	Case	2W	2w4h	Y	2	1	2	
132	Case	3W	2w5h	Y	3	2	3	Bottom stiles and rails badly weathered - fissured
133	Case/DR	3W	2w5h	Y	3	3	3	This a F.R. door unit w/ flankers, over grown w/ vegetati
134	Case	3W	2w5h	Y	3	1	1	
135	Case	1W	SG	N	1	1	1	Deep inset sash & frame
136	Case	1W	SG	N	1	1	1	Deep inset sash & frame
137	Case	3W w/ Trans	2w4h	Y	2	1	2	

SECOND FLOOR

No	Type	Sash Size	CUT	Mull	Sash	Frame	Sill	
201	Case	3W	2w5h	Y	1	1	1	
202	Case	2W	2w4h	Y	1	1	1	
203	Case	2W	2w4h	Y	1	1	1	
204	Case	1W	2w4h	N	2	1	2	Bottom left sash
205	Case	1W	2w4h	N	1	1	1	
206	Case	2W	2w4h	Y	3	1	1	Joinery opening, bottom stile and rail, right sash
207	Case	1W	2w4h	N	1	1	1	
208	Case	2W	2w4h	Y	2	2	1	Joinery opening, bottom stile and rail
209	Case	1W	4lt	N	1	1	1	Hinges sprung
210	Case	2W	2w4h	N	3	1	1	Failure on bottom stiles and rails
211	Case	2W	SG	N	2	1	1	
212	Case	3W - Indiv	SG	Y	1	1	1	Round top
213	Case	2W	SG	N	2	1	1	Right sash replace
214	Case	2W	2w3h	Y	3	1	2	Out board stiles fissured, sash rotted
215	Case	2W	2w3h	Y	2	1	2	
216	Case	1W	2lt	N	1	1	1	
217	Case	2W	2w2h	Y	2	1	3	
218	Case	2W	2w2h	Y	2	1	2	
219	Case	2W	2w4h	Y	1	1	1	
220	Case	2W	2w3h	Y	1	1	1	
221	Case	2W	2w3h	Y	1	1	1	
222	Case	2W	2w3h	Y	1	1	2	
223	Case	2W	2w3h	Y	1	1	2	
224	Case	2W	2w4h	Y	3	2	3	Pronounced weathering and fissures
225	Case	2W	2w4h	Y	3	2	3	Pronounced weathering and fissures
226	Case	1W	2w4h	N	3	2	3	Pronounced weathering and fissures
227	Case	2W	2w4h	Y	3	2	3	Pronounced weathering and fissures
228	Case	2W	2w3h	Y	2	1	2	
229	Case	2W	2w4h	Y	3	3	3	Pronounced weathering and fissures

230	Case	1W	2w3h	N	2	2	2	Pronounced weathering and fissures
231	Case	2W	2w4h	Y	3	3	3	Pronounced weathering and fissures
232	Case	3W	2w4h	Y	3	3	3	Pronounced weathering and fissures
233	Case	3W	2w4h	Y	2	2	2	
234	Case	3W	2w4h	Y	2	1	2	
235	Case	3W	2w4h	Y	2	1	2	Bottom rail size

ATTIC

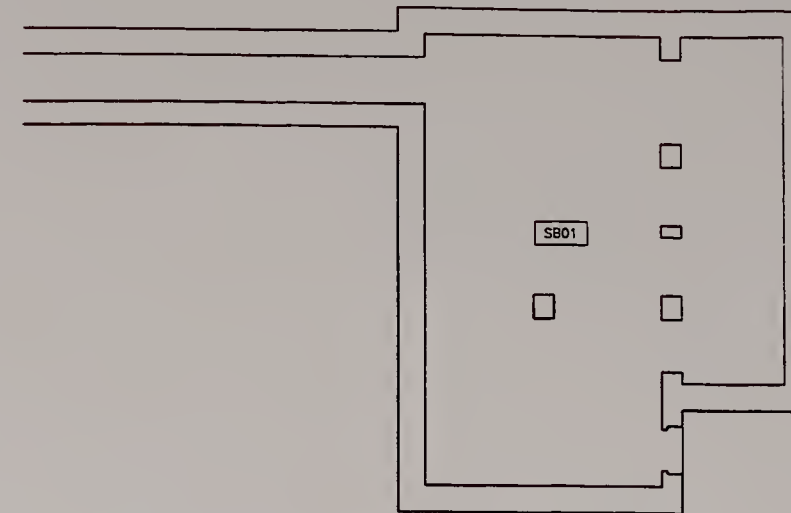
No	Type	Sash Size	CUT	Mull	Sash	Frame	Sill	
301	Sash		4lt	N	1	1	1	
301	Sash		4lt	N	2	1	3	

Proch - Metal casement outswing divided lite on wes and east elevations, all screens on north elevation

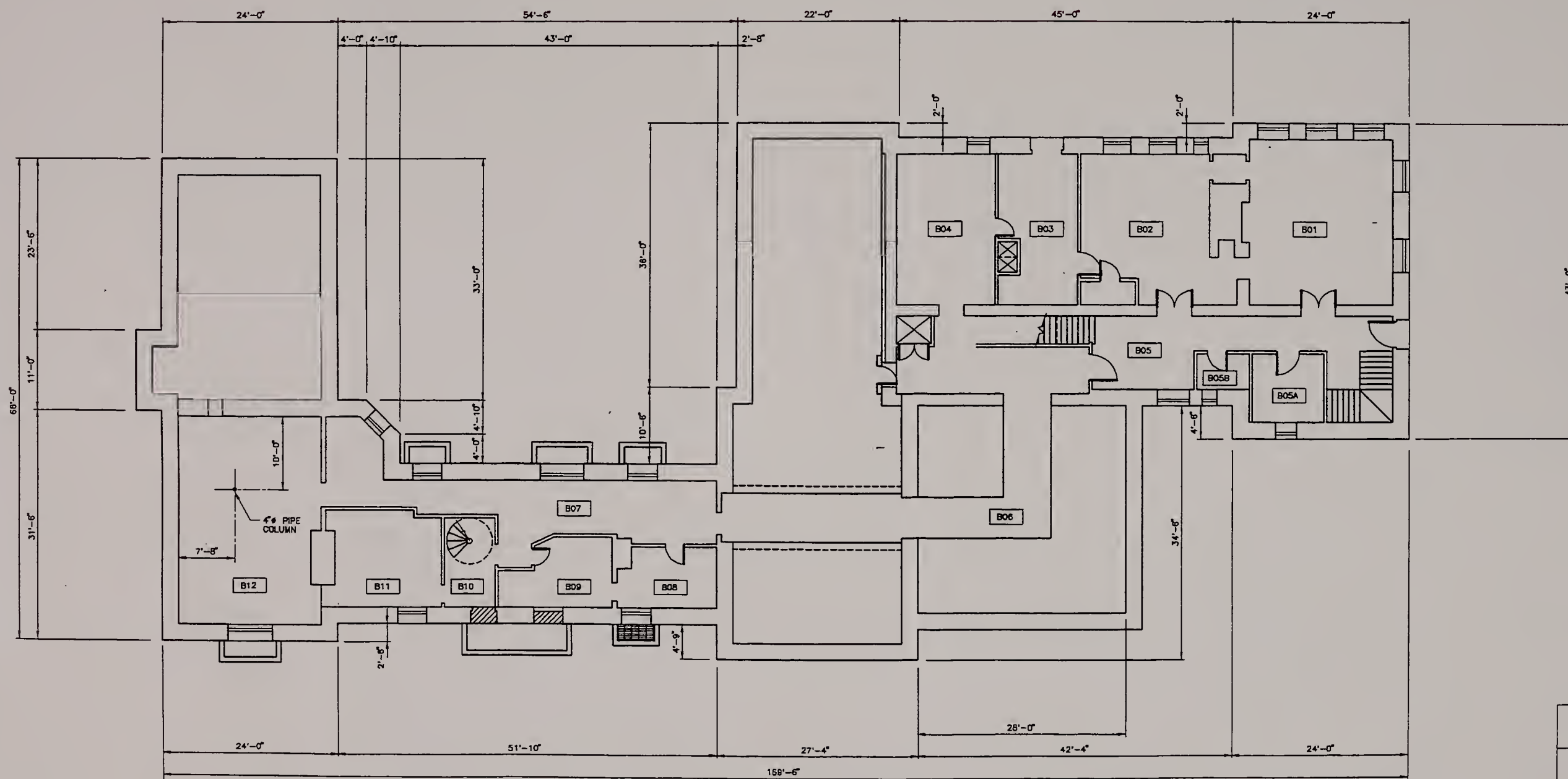
COD

Grading

- 1 Minor refurbishment
- 2 Minor repair and refurbish
- 3 Repair dutchmen and epoxy conservation
- 4 Major repair or replacement of components



BOILER ROOM PLAN
1/8" = 1'-0"



BASEMENT PLAN
1/8" = 1'-0"

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BRADLEY PALMER MANSION
BRADLEY PALMER STATE PARK - TOPSFIELD, MA

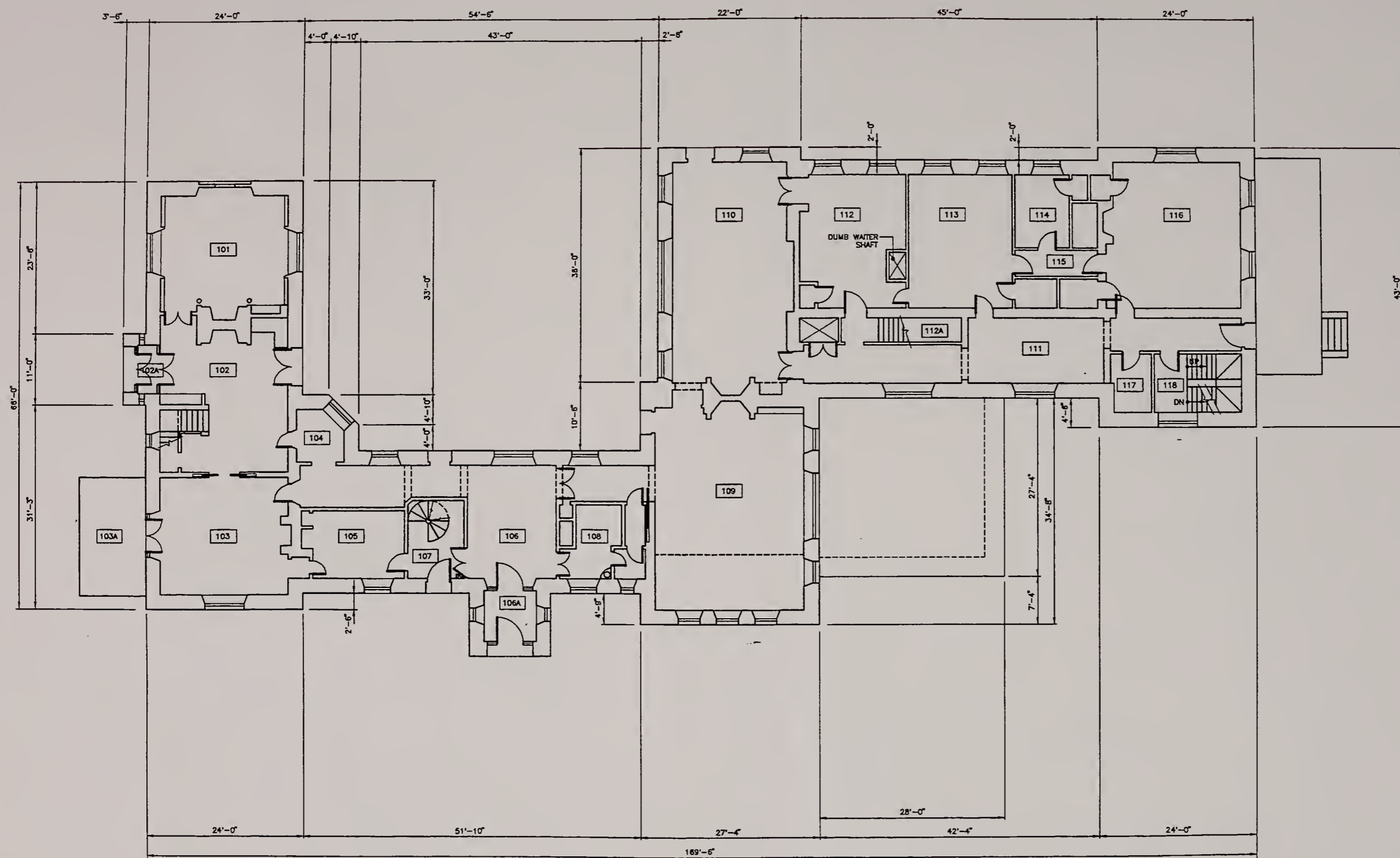
OCMULGEE ASSOCIATES, INC. STRUCT. ENGINEERING
317 HIGH STREET IPSWICH, MA 01938

DRAWN: RGC
TRACED:
CHECKED: WCK

SCALE: AS NOTED
DATE: AUGUST 1995

DRAWING NO.

S-1



FIRST FLOOR PLAN
 $\frac{1}{8}" = 1'-0"$

THE COMMONWEALTH OF MASSACHUSETTS
 MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BRADLEY PALMER MANSION
 BRADLEY PALMER STATE PARK - TOPSFIELD, MA

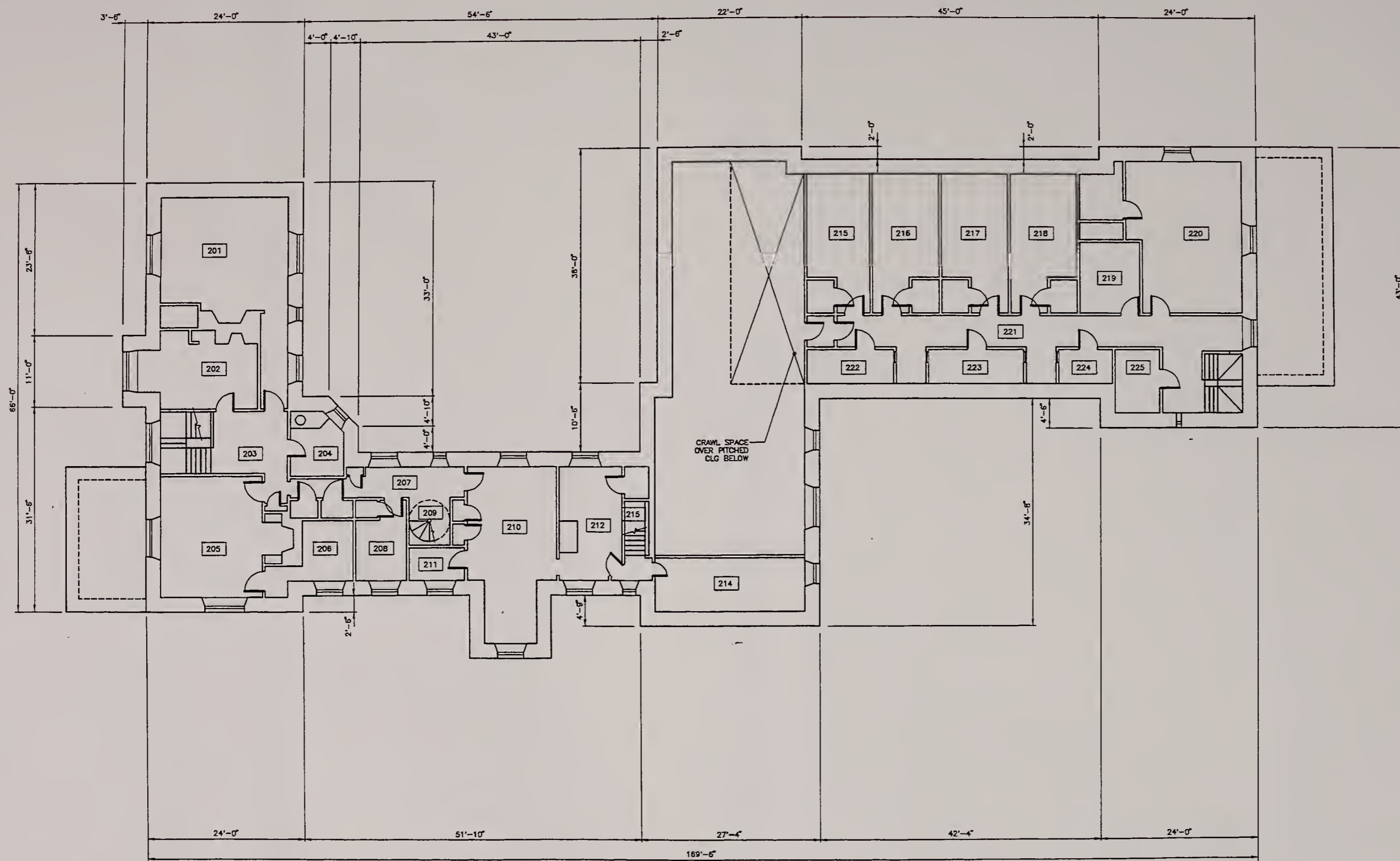
OCCULGEE ASSOCIATES, INC. STRUCT. ENGINEERING
 317 HIGH STREET IPSWICH, MA 01938

DRAWING NO.

DRAWN: RGC
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 CHECKED: WCK

SCALE: AS NOTED
 DATE: AUGUST 1995

S-2



SECOND FLOOR PLAN
 $\frac{1}{8}" = 1'-0"$

THE COMMONWEALTH OF MASSACHUSETTS
 MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BRADLEY PALMER MANSION
 BRADLEY PALMER STATE PARK - TOPSFIELD, MA

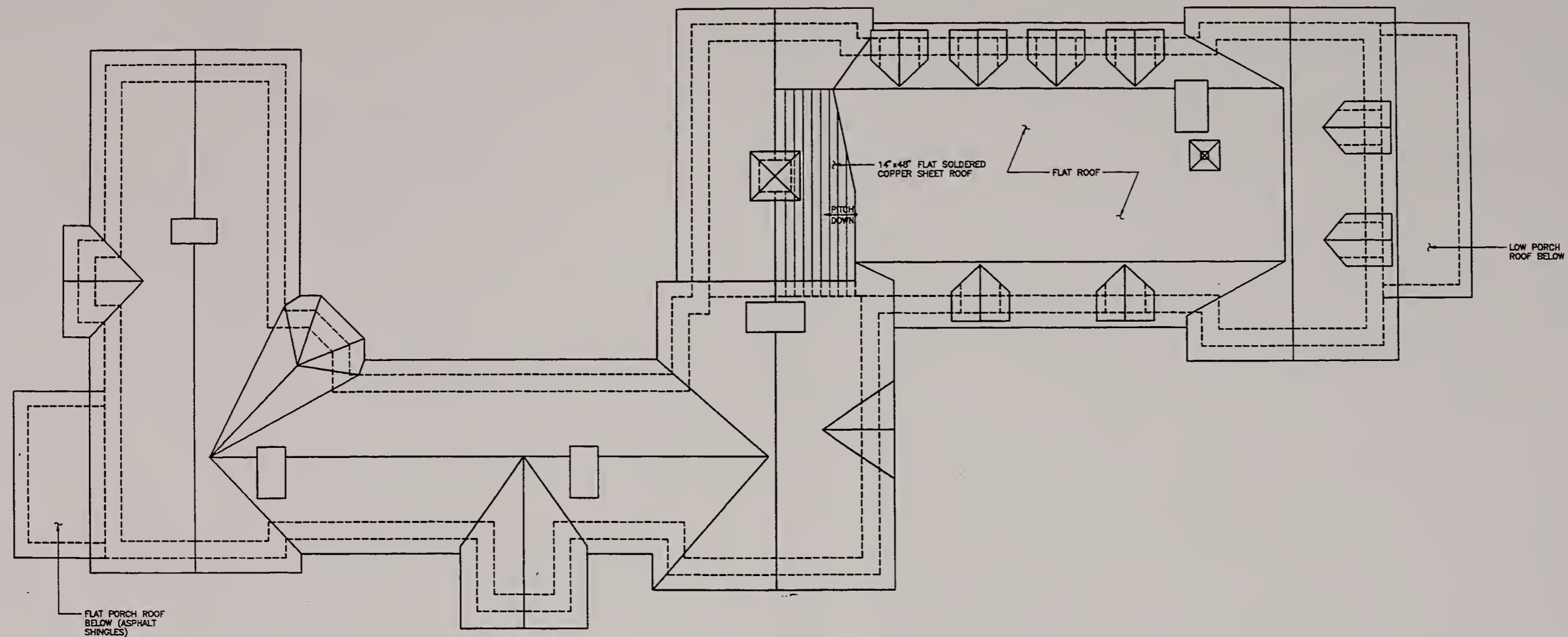
OCMULGEE ASSOCIATES, INC. STRUCT. ENGINEERING
 317 HIGH STREET IPSWICH, MA 01938

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SCALE: AS NOTED
 DATE: AUGUST 1985

DRAWING NO.

S-3



ROOF PLAN
1/8" = 1'-0"

THE COMMONWEALTH OF MASSACHUSETTS
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BRADLEY PALMER MANSION
BRADLEY PALMER STATE PARK - TOPSFIELD, MA

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DATE: AUGUST 1995

S-4



MASSACHUSETTS